#define DECODER\_BITS 5

#define LEDS\_PER\_ROW 5

#define pEN 12

#define MICRO 25

#define p0 4

#define p1 3

#define p2 2

#define p3 6

#define p4 5

#define Z0 7

#define Z1 8

#define Z2 9

#define Z3 10

#define Z4 11

unsigned int decoderPins[] = {p0, p1, p2, p3, p4};

unsigned int cathodePins[] = {Z0, Z1, Z2, Z3, Z4};

//individual LEDS

void LED1() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED2() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED3() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED4() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED5() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED6() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED7() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED8() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED9() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED10() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED11() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED12() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED13() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED14() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED15() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED16() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED17() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED18() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED19() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED20() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED21() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED22() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED23() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED24() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED25() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

}

void LED26() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED27() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED28() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED29() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED30() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED31() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED32() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED33() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED34() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED35() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED36() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED37() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED38() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED39() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED40() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED41() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED42() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED43() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED44() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED45() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED46() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED47() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED48() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED49() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED50() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

}

void LED51() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED52() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED53() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED54() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED55() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED56() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED57() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED58() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED59() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED60() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED61() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED62() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED63() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED64() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED65() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED66() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED67() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED68() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED69() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED70() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED71() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED72() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED73() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED74() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED75() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, LOW);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

}

void LED76() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED77() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED78() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED79() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED80() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED81() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED82() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED83() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED84() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED85() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED86() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED87() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED88() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED89() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED90() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED91() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED92() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED93() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED94() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED95() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED96() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED97() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED98() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED99() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED100() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

}

void LED101() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED102() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED103() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED104() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED105() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED106() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED107() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED108() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void LED109() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED110() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED111() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED112() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED113() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED114() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED115() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED116() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void LED117() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED118() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED119() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED120() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED121() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED122() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED123() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED124() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void LED125() {

digitalWrite(Z0, LOW);

digitalWrite(Z1, LOW);

digitalWrite(Z2, LOW);

digitalWrite(Z3, LOW);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

}

//COLUMNS

void COL1() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL2() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL3() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL4() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL5() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL6() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL7() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL8() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

}

void COL9() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL10() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL11() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL12() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL13() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL14() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL15() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL16() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

}

void COL17() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL18() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL19() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL20() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL21() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL22() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL23() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL24() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

}

void COL25() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

}

//LAYERS

void LEVELA(){

LED1();

delay(5);

LED2();

delay(5);

LED3();

delay(5);

LED4();

delay(5);

LED5();

delay(5);

LED6();

delay(5);

LED7();

delay(5);

LED8();

delay(5);

LED9();

delay(5);

LED10();

delay(5);

LED11();

delay(5);

LED12();

delay(5);

LED13();

delay(5);

LED14();

delay(5);

LED15();

delay(5);

LED16();

delay(5);

LED17();

delay(5);

LED18();

delay(5);

LED19();

delay(5);

LED20();

delay(5);

LED21();

delay(5);

LED22();

delay(5);

LED23();

delay(5);

LED24();

delay(5);

LED25();

delay(5);

}

void LEVELB(){

LED26();

delay(5);

LED27();

delay(5);

LED28();

delay(5);

LED29();

delay(5);

LED25();

delay(5);

LED31();

delay(5);

LED32();

delay(5);

LED33();

delay(5);

LED34();

delay(5);

LED35();

delay(5);

LED36();

delay(5);

LED37();

delay(5);

LED38();

delay(5);

LED39();

delay(5);

LED40();

delay(5);

LED41();

delay(5);

LED42();

delay(5);

LED43();

delay(5);

LED44();

delay(5);

LED45();

delay(5);

LED46();

delay(5);

LED47();

delay(5);

LED48();

delay(5);

LED49();

delay(5);

LED50();

delay(5);

}

void LEVELC(){

LED51();

delay(5);

LED52();

delay(5);

LED53();

delay(5);

LED54();

delay(5);

LED55();

delay(5);

LED56();

delay(5);

LED57();

delay(5);

LED58();

delay(5);

LED59();

delay(5);

LED60();

delay(5);

LED61();

delay(5);

LED62();

delay(5);

LED63();

delay(5);

LED64();

delay(5);

LED65();

delay(5);

LED66();

delay(5);

LED67();

delay(5);

LED68();

delay(5);

LED69();

delay(5);

LED70();

delay(5);

LED71();

delay(5);

LED72();

delay(5);

LED73();

delay(5);

LED74();

delay(5);

LED75();

delay(5);

}

void LEVELD(){

LED76();

delay(5);

LED77();

delay(5);

LED78();

delay(5);

LED79();

delay(5);

LED80();

delay(5);

LED81();

delay(5);

LED82();

delay(5);

LED83();

delay(5);

LED84();

delay(5);

LED85();

delay(5);

LED86();

delay(5);

LED87();

delay(5);

LED88();

delay(5);

LED89();

delay(5);

LED90();

delay(5);

LED91();

delay(5);

LED92();

delay(5);

LED93();

delay(5);

LED94();

delay(5);

LED95();

delay(5);

LED96();

delay(5);

LED97();

delay(5);

LED98();

delay(5);

LED99();

delay(5);

LED100();

delay(5);

}

void LEVELE(){

LED101();

delay(5);

LED102();

delay(5);

LED103();

delay(5);

LED104();

delay(5);

LED105();

delay(5);

LED106();

delay(5);

LED107();

delay(5);

LED108();

delay(5);

LED109();

delay(5);

LED110();

delay(5);

LED111();

delay(5);

LED112();

delay(5);

LED113();

delay(5);

LED114();

delay(5);

LED115();

delay(5);

LED116();

delay(5);

LED117();

delay(5);

LED118();

delay(5);

LED119();

delay(5);

LED120();

delay(5);

LED121();

delay(5);

LED122();

delay(5);

LED123();

delay(5);

LED124();

delay(5);

LED125();

delay(5);

}

//LETTERS

void A() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED72();

delay(10);

LED73();

delay(10);

LED74();

delay(30);

}

void N(){

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

delay(10);

LED97();

delay(10);

LED73();

delay(10);

LED49();

delay(10);

}

void I(){

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

delay(10);

LED121();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED125();

delay(10);

LED21();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

LED25();

delay(10);

}

void E(){

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, HIGH);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

delay(10);

LED121();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED125();

delay(10);

LED21();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

LED25();

delay(10);

LED71();

delay(10);

LED72();

delay(10);

LED73();

delay(10);

}

void D() {

COL21();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED100();

delay(10);

LED75();

delay(10);

LED50();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

}

void W(){

COL21();

delay(10);

COL25();

delay(10);

LED47();

delay(10);

LED49();

delay(10);

LED73();

delay(10);

}

void G(){

COL21();

delay(10);

LED121();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED125();

delay(10);

LED21();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

LED25();

delay(10);

LED50();

delay(10);

LED75();

delay(10);

LED74();

delay(10);

LED73();

delay(10);

}

void H(){

COL21();

delay(10);

COL25();

delay(10);

LED72();

delay(10);

LED73();

delay(10);

LED74();

delay(10);

}

void T(){

COL23();

delay(10);

LED121();

delay(10);

LED122();

delay(10);

LED124();

delay(10);

LED125();

delay(10);

}

void S(){

LED121();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED125();

delay(10);

LED96();

delay(10);

LED71();

delay(10);

LED72();

delay(10);

LED73();

delay(10);

LED74();

delay(10);

LED75();

delay(10);

LED50();

delay(10);

LED21();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

LED25();

delay(10);

}

void C(){

LED121();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED125();

delay(10);

COL21();

delay(10);

LED21();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

LED25();

delay(10);

}

void O(){

COL21();

delay(10);

COL25();

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

}

void L(){

COL21();

delay(10);

LED22();

delay(10);

LED23();

delay(10);

LED24();

delay(10);

LED25();

delay(10);

}

//PATTERNS

void FADEBACK(){

COL21();

delay(5);

COL22();

delay(5);

COL23();

delay(5);

COL24();

delay(5);

COL25();

delay(5);

COL21();

delay(5);

COL22();

delay(5);

COL23();

delay(5);

COL24();

delay(5);

COL25();

delay(5);

COL21();

delay(5);

COL22();

delay(5);

COL23();

delay(5);

COL24();

delay(5);

COL25();

delay(30);

COL16();

delay(5);

COL17();

delay(5);

COL18();

delay(5);

COL19();

delay(5);

COL20();

delay(5);

COL16();

delay(5);

COL17();

delay(5);

COL18();

delay(5);

COL19();

delay(5);

COL20();

delay(5);

COL16();

delay(5);

COL17();

delay(5);

COL18();

delay(5);

COL19();

delay(5);

COL20();

delay(30);

COL11();

delay(5);

COL12();

delay(5);

COL13();

delay(5);

COL14();

delay(5);

COL15();

delay(5);

COL11();

delay(5);

COL12();

delay(5);

COL13();

delay(5);

COL14();

delay(5);

COL15();

delay(5);

COL11();

delay(5);

COL12();

delay(5);

COL13();

delay(5);

COL14();

delay(5);

COL15();

delay(30);

COL6();

delay(5);

COL7();

delay(5);

COL8();

delay(5);

COL9();

delay(5);

COL10();

delay(5);

COL6();

delay(5);

COL7();

delay(5);

COL8();

delay(5);

COL9();

delay(5);

COL10();

delay(5);

COL6();

delay(5);

COL7();

delay(5);

COL8();

delay(5);

COL9();

delay(5);

COL10();

delay(30);

COL1();

delay(5);

COL2();

delay(5);

COL3();

delay(5);

COL4();

delay(5);

COL5();

delay(5);

COL1();

delay(5);

COL2();

delay(5);

COL3();

delay(5);

COL4();

delay(5);

COL5();

delay(5);

COL1();

delay(5);

COL2();

delay(5);

COL3();

delay(5);

COL4();

delay(5);

COL5();

delay(30);

}

void FADEFRONT(){

COL1();

delay(5);

COL2();

delay(5);

COL3();

delay(5);

COL4();

delay(5);

COL5();

delay(5);

COL1();

delay(5);

COL2();

delay(5);

COL3();

delay(5);

COL4();

delay(5);

COL5();

delay(5);

COL1();

delay(5);

COL2();

delay(5);

COL3();

delay(5);

COL4();

delay(5);

COL5();

delay(30);

COL6();

delay(5);

COL7();

delay(5);

COL8();

delay(5);

COL9();

delay(5);

COL10();

delay(5);

COL6();

delay(5);

COL7();

delay(5);

COL8();

delay(5);

COL9();

delay(5);

COL10();

delay(5);

COL6();

delay(5);

COL7();

delay(5);

COL8();

delay(5);

COL9();

delay(5);

COL10();

delay(30);

COL11();

delay(5);

COL12();

delay(5);

COL13();

delay(5);

COL14();

delay(5);

COL15();

delay(5);

COL11();

delay(5);

COL12();

delay(5);

COL13();

delay(5);

COL14();

delay(5);

COL15();

delay(5);

COL11();

delay(5);

COL12();

delay(5);

COL13();

delay(5);

COL14();

delay(5);

COL15();

delay(30);

COL16();

delay(5);

COL17();

delay(5);

COL18();

delay(5);

COL19();

delay(5);

COL20();

delay(5);

COL16();

delay(5);

COL17();

delay(5);

COL18();

delay(5);

COL19();

delay(5);

COL20();

delay(5);

COL16();

delay(5);

COL17();

delay(5);

COL18();

delay(5);

COL19();

delay(5);

COL20();

delay(30);

COL21();

delay(5);

COL22();

delay(5);

COL23();

delay(5);

COL24();

delay(5);

COL25();

delay(5);

COL21();

delay(5);

COL22();

delay(5);

COL23();

delay(5);

COL24();

delay(5);

COL25();

delay(5);

COL21();

delay(5);

COL22();

delay(5);

COL23();

delay(5);

COL24();

delay(5);

COL25();

delay(30);

}

void COLFADER(){

COL1();

delay(30);

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

delay(30);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(30);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(30);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(30);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(30);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(30);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(30);

COL25();

delay(30);

}

void COLFADEL(){

COL25();

delay(30);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(5);

COL20();

delay(5);

COL24();

delay(30);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(5);

COL15();

delay(5);

COL19();

delay(5);

COL23();

delay(30);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(5);

COL10();

delay(5);

COL14();

delay(5);

COL18();

delay(5);

COL22();

delay(30);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(5);

COL5();

delay(5);

COL9();

delay(5);

COL13();

delay(5);

COL17();

delay(5);

COL21();

delay(30);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(5);

COL4();

delay(5);

COL8();

delay(5);

COL12();

delay(5);

COL16();

delay(30);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(5);

COL3();

delay(5);

COL7();

delay(5);

COL11();

delay(30);

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

COL2();

delay(5);

COL6();

delay(30);

COL1();

delay(30);

}

void SPIRAL() {

COL1();

delay(25);

COL2();

delay(25);

COL3();

delay(25);

COL4();

delay(25);

COL5();

delay(25);

COL10();

delay(25);

COL15();

delay(25);

COL20();

delay(25);

COL25();

delay(25);

COL24();

delay(25);

COL23();

delay(25);

COL22();

delay(25);

COL21();

delay(25);

COL16();

delay(25);

COL11();

delay(25);

COL6();

delay(25);

COL7();

delay(25);

COL8();

delay(25);

COL9();

delay(25);

COL14();

delay(25);

COL19();

delay(25);

COL18();

delay(25);

COL17();

delay(25);

COL12();

delay(25);

COL13();

delay(25);

COL12();

delay(25);

COL17();

delay(25);

COL18();

delay(25);

COL19();

delay(25);

COL14();

delay(25);

COL9();

delay(25);

COL8();

delay(25);

COL7();

delay(25);

COL6();

delay(25);

COL11();

delay(25);

COL16();

delay(25);

COL21();

delay(25);

COL22();

delay(25);

COL23();

delay(25);

COL24();

delay(25);

COL25();

delay(25);

COL20();

delay(25);

COL15();

delay(25);

COL10();

delay(25);

COL5();

delay(25);

COL4();

delay(25);

COL3();

delay(25);

COL2();

delay(25);

COL1();

delay(25);

}

void TESTLED() {

LED1();

delay(25);

LED2();

delay(25);

LED3();

delay(25);

LED4();

delay(25);

LED5();

delay(25);

LED6();

delay(25);

LED7();

delay(25);

LED8();

delay(25);

LED9();

delay(25);

LED10();

delay(25);

LED11();

delay(25);

LED12();

delay(25);

LED13();

delay(25);

LED14();

delay(25);

LED15();

delay(25);

LED16();

delay(25);

LED17();

delay(25);

LED18();

delay(25);

LED19();

delay(25);

LED20();

delay(25);

LED21();

delay(25);

LED22();

delay(25);

LED23();

delay(25);

LED24();

delay(25);

LED25();

delay(25);

LED26();

delay(25);

LED27();

delay(25);

LED28();

delay(25);

LED29();

delay(25);

LED30();

delay(25);

LED31();

delay(25);

LED32();

delay(25);

LED33();

delay(25);

LED34();

delay(25);

LED35();

delay(25);

LED36();

delay(25);

LED37();

delay(25);

LED38();

delay(25);

LED39();

delay(25);

LED40();

delay(25);

LED41();

delay(25);

LED42();

delay(25);

LED43();

delay(25);

LED44();

delay(25);

LED45();

delay(25);

LED46();

delay(25);

LED47();

delay(25);

LED48();

delay(25);

LED49();

delay(25);

LED50();

delay(25);

LED51();

delay(25);

LED52();

delay(25);

LED53();

delay(25);

LED54();

delay(25);

LED55();

delay(25);

LED56();

delay(25);

LED57();

delay(25);

LED58();

delay(25);

LED59();

delay(25);

LED60();

delay(25);

LED61();

delay(25);

LED62();

delay(25);

LED63();

delay(25);

LED64();

delay(25);

LED65();

delay(25);

LED66();

delay(25);

LED67();

delay(25);

LED68();

delay(25);

LED69();

delay(25);

LED70();

delay(25);

LED71();

delay(25);

LED72();

delay(25);

LED73();

delay(25);

LED74();

delay(25);

LED75();

delay(25);

LED76();

delay(25);

LED77();

delay(25);

LED78();

delay(25);

LED79();

delay(25);

LED80();

delay(25);

LED81();

delay(25);

LED82();

delay(25);

LED83();

delay(25);

LED84();

delay(25);

LED85();

delay(25);

LED86();

delay(25);

LED87();

delay(25);

LED88();

delay(25);

LED89();

delay(25);

LED90();

delay(25);

LED91();

delay(25);

LED92();

delay(25);

LED93();

delay(25);

LED94();

delay(25);

LED95();

delay(25);

LED96();

delay(25);

LED97();

delay(25);

LED98();

delay(25);

LED99();

delay(25);

LED100();

delay(25);

LED101();

delay(25);

LED102();

delay(25);

LED103();

delay(25);

LED104();

delay(25);

LED105();

delay(25);

LED106();

delay(25);

LED107();

delay(25);

LED108();

delay(25);

LED109();

delay(25);

LED110();

delay(25);

LED111();

delay(25);

LED112();

delay(25);

LED113();

delay(25);

LED114();

delay(25);

LED115();

delay(25);

LED116();

delay(25);

LED117();

delay(25);

LED118();

delay(25);

LED119();

delay(25);

LED120();

delay(25);

LED121();

delay(25);

LED122();

delay(25);

LED123();

delay(25);

LED124();

delay(25);

LED125();

delay(25);

}

void ANNIE(){

A();

A();

A();

A();

A();

A();

delay(30);

N();

N();

N();

N();

N();

N();

delay(150);

N();

N();

N();

N();

N();

N();

delay(30);

I();

I();

I();

I();

I();

I();

delay(30);

E();

E();

E();

E();

E();

E();

delay(30);

}

//void DWIGHT(){

//D();

//D();

//D();

//D();

//D();

//D();

//delay(30);

//W();

//W();

//W();

//W();

//W();

//W();

//delay(30);

//I();

//I();

//I();

//I();

//I();

//I();

//delay(30);

//G();

//G();

//G();

//delay(30);

//H();

//H();

//H();

//H();

//H();

//H();

//delay(30);

//T();

//T();

//T();

//FADEBACK();

//I();

//I();

//I();

//I();

//I();

//I();

//delay(30);

//S();

//S();

//S();

//S();

//S();

//S();

//FADEBACK();

//C();

//C();

//C();

//C();

//C();

//C();

//delay(30);

//O();

//O();

//O();

//O();

//O();

//O();

//delay(150);

//O();

//O();

//O();

//O();

//O();

//O();

//delay(30);

//L();

//L();

//L();

//L();

//L();

//L();

//delay(200);

//

//}

void AMOVE() {

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, HIGH);

delay(10);

LED122();

delay(10);

LED123();

delay(10);

LED124();

delay(10);

LED72();

delay(10);

LED73();

delay(10);

LED74();

delay(30);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, HIGH);

digitalWrite(p2, HIGH);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, HIGH);

delay(10);

LED117();

delay(10);

LED118();

delay(10);

LED119();

delay(10);

LED67();

delay(10);

LED68();

delay(10);

LED69();

delay(30);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, HIGH);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

delay(10);

LED112();

delay(10);

LED113();

delay(10);

LED114();

delay(10);

LED62();

delay(10);

LED63();

delay(10);

LED64();

delay(30);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, HIGH);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, HIGH);

digitalWrite(p4, LOW);

delay(10);

LED107();

delay(10);

LED108();

delay(10);

LED109();

delay(10);

LED57();

delay(10);

LED58();

delay(10);

LED59();

delay(30);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, LOW);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

delay(10);

digitalWrite(Z0, HIGH);

digitalWrite(Z1, HIGH);

digitalWrite(Z2, HIGH);

digitalWrite(Z3, HIGH);

digitalWrite(Z4, LOW);

digitalWrite(p0, LOW);

digitalWrite(p1, LOW);

digitalWrite(p2, HIGH);

digitalWrite(p3, LOW);

digitalWrite(p4, LOW);

delay(10);

LED102();

delay(10);

LED103();

delay(10);

LED104();

delay(10);

LED52();

delay(10);

LED53();

delay(10);

LED54();

delay(30);

}

void LEVELS() {

LEVELA();

LEVELA();

LEVELA();

LEVELA();

LEVELA();

LEVELB();

LEVELB();

LEVELB();

LEVELB();

LEVELB();

LEVELC();

LEVELC();

LEVELC();

LEVELC();

LEVELC();

LEVELD();

LEVELD();

LEVELD();

LEVELD();

LEVELD();

LEVELE();

LEVELE();

LEVELE();

LEVELE();

LEVELE();

}

void setup() {

//set decoder pins to low

pinMode(p0, OUTPUT);

digitalWrite(p0, LOW);

pinMode(p1, OUTPUT);

digitalWrite(p0, LOW);

pinMode(p2, OUTPUT);

digitalWrite(p0, LOW);

pinMode(p3, OUTPUT);

digitalWrite(p0, LOW);

pinMode(p4, OUTPUT);

digitalWrite(p0, LOW);

//set cathode pins to low

pinMode(Z0, OUTPUT);

digitalWrite(Z0, LOW);

pinMode(Z1, OUTPUT);

digitalWrite(Z1, LOW);

pinMode(Z2, OUTPUT);

digitalWrite(Z2, LOW);

pinMode(Z3, OUTPUT);

digitalWrite(Z3, LOW);

pinMode(Z4, OUTPUT);

digitalWrite(Z4, LOW);

//enable decoders

pinMode(pEN, OUTPUT);

digitalWrite(pEN, HIGH);

}

void loop() {

TESTLED();

TESTLED();

TESTLED();

A();

A();

A();

A();

A();

A();

A();

A();

A();

AMOVE();

AMOVE();

AMOVE();

AMOVE();

AMOVE();

LEVELS();

LEVELS();

ANNIE();

ANNIE();

SPIRAL();

SPIRAL();

SPIRAL();

SPIRAL();

COLFADER();

COLFADER();

COLFADER();

COLFADEL();

COLFADEL();

COLFADEL();

COLFADER();

COLFADEL();

COLFADER();

COLFADEL();

COLFADER();

COLFADEL();

FADEFRONT();

FADEFRONT();

FADEFRONT();

FADEBACK();

FADEBACK();

FADEBACK();

FADEFRONT();

FADEBACK();

FADEFRONT();

FADEBACK();

FADEFRONT();

FADEBACK();

// DWIGHT();

}