Module Module1

Sub Main()

'in any program we must declare variables

Dim firstNum, secondNum, TEMP, HCF As Integer ' "As Integer" symbolizes that the nature of data for these variables are integers

'first we inform the user about the instructions

Console.WriteLine("enter two numbers for highest common factor")

'then we prompt the user to enter a number

Console.WriteLine("enter first number")

'we store the digit in to a variable firstNum

firstNum = Console.ReadLine

'then we prompt the user to enter a second number

Console.WriteLine("enter second number")

'similarly we store that too, but in a different variable

' we dont want the first one to be overwritten

secondNum = Console.ReadLine

'we compare which one is larger and store it into a Temporary storage "TEMP"

If firstNum < secondNum Then

TEMP = firstNum

ElseIf firstNum > secondNum Then

TEMP = secondNum

'in the clause underneath we stored a value into the TEMP even though the first and second numbers were equal

'this is because we needed the "highest" number of the either whatever it may be.

ElseIf firstNum = secondNum Then

TEMP = secondNum

End If

'here is where the programming really begins

'the mod function divides the integer by a number and returns the remainder

'this is useful, in this way we can check by which numbers are the remainders zero

'here we use a "FOR ITERATION LOOP" to do the job

'we create a variable 'i' and increase it by 1 after every loop

For i = 1 To TEMP Step 1 '"Step 1" shows that there is an increment of 1 after every loop

'as you can see we also used an AND function

'this is because we only needed numbers which divides both variables giving remainder zero

'another important note is that we cannot begin i at 0

'this is because anything divided by 0 may lead to infinity

If ((firstNum Mod i = 0) And (secondNum Mod i = 0)) Then

'we store the numbers into variable "HCF"

' every time a greater variable is found HCF is overwritten

HCF = i

End If

Next

Console.Clear() ' this command clears anything written on the console screen

Console.WriteLine("highest common factor = " & HCF) 'this command displays message on console screen

'the commands underneath allows for exiting the console screen

Console.WriteLine()

Console.WriteLine("PRESS ANY BUTTON TO EXIT")

Console.ReadKey()

'P.S

'while programming, as long as you do not ruin the syntaxes

' you are free to put spaces, tabs or empty lines to make the program look less messy

End Sub

End Module