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