

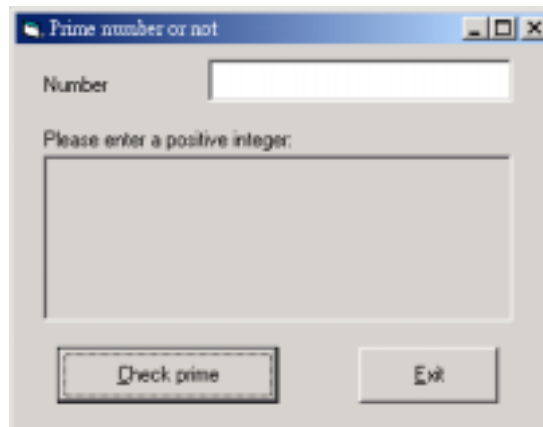
6.5 Prime numbers are integers greater than 1 with no positive integral divisors except for themselves and 1. The following program consists of a function *IsPrime (Num)* to determine if the integer Num is a prime number or not. Try to walk through the program and study the function.

Step 1: Create a form with two command buttons, one text box, two labels and one picture box according to the properties table below

Properties Table

Object	Property	Setting
Form	Name	frmPrime
	Caption	Prime number or not
Command Button	Name	cmdPrime
	Caption	&Check prime
Command Button	Name	cmdExit
	Caption	&Exit
Label	Name	LblNum
	Caption	Number
Label	Name	lblMessage
	Caption	Please enter a positive integer :
Text Box	Name	TxtNum
	Caption	(empty)
Picture Box	Name	picOutput
	Caption	(empty)

Layout



Step 2 : *Add codes for the events*
cmdPrime_Click()
cmdExit

Codes for **cmdPrime**

```
Private Sub cmdPrime_Click()  
    Dim Num As Integer  
  
    Num = Val(txtNum.Text)  
  
    picOutput.Cls  
    If Num <= 1 Then  
        picOutput.Print "Invalid number."  
    Else  
        picOutput.Print Num; " is ";  
        If Not IsPrime(Num) Then  
            picOutput.Print " not ";  
        End If  
        picOutput.Print "a prime number."  
    End If  
  
End Sub
```

Codes for **cmdExit**

```
Private Sub cmdExit_Click()  
    End  
End Sub
```

Step 3 : *Add Codes for a function* **IsPrime**

```
Private Function IsPrime(Num As Integer) As Boolean  
  
    Dim SoFarPrime As Boolean  
    Dim i As Integer  
  
    SoFarPrime = True  
    For i = 2 To Num - 1  
        If (Num Mod i) = 0 Then  
            SoFarPrime = False  
        End If  
    Next i  
    IsPrime = SoFarPrime  
  
End Function
```

Step 4 : *Execution*

Click the **txtNum** text box and type 3.
Click the **Check prime** command button.
Click the **txtNum** text box and type 4.
Click the **Check prime** command button.
Click the **txtNum** text box and type 1.
Click the **Check prime** command button.
Try other values for number.
Terminate the program by clicking the **Exit** button.

Task : Making use of the function *IsPrime*, try to write a function with an integer as input parameter and display all the prime factors or the integer. Write a program to test your function.

Sample running :

