

# ASSIGNMENT – 1

## 1. Check if prime or not:

### Program:

```
a = int(input("Enter the number to check if it is a prime : "))
```

```
if a > 1:
```

```
    for i in range(2, a):
```

```
        if (a % i) == 0:
```

```
            print(a, " is not a prime number")
```

```
            break
```

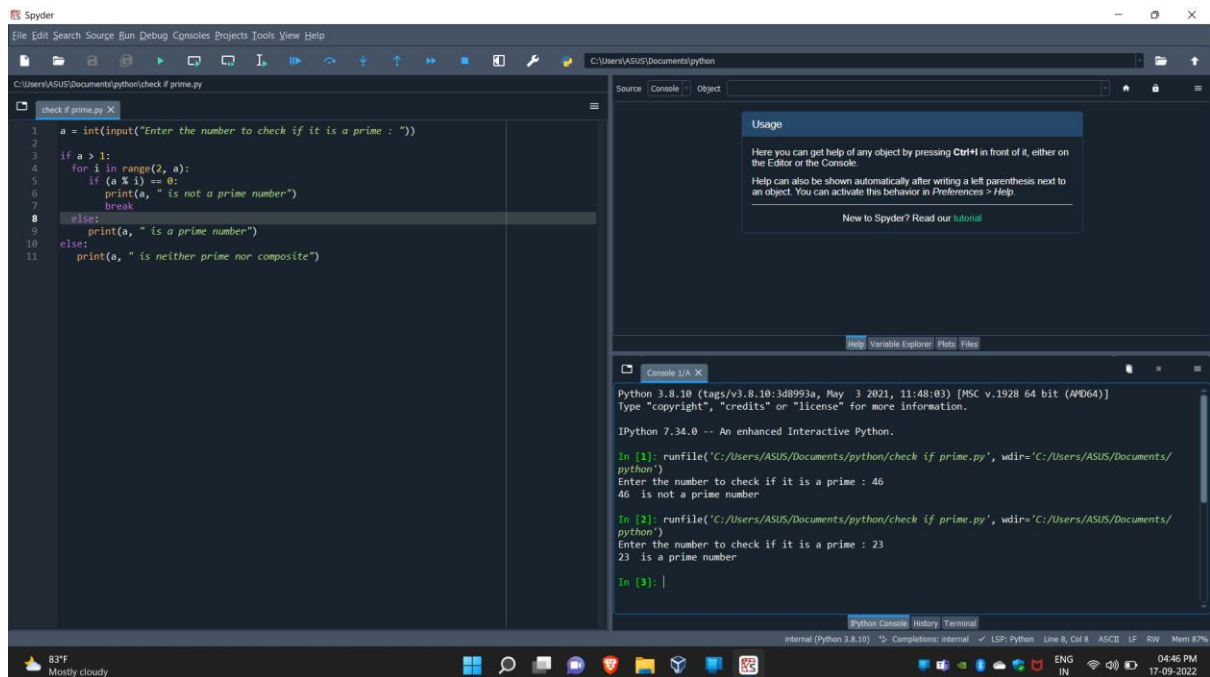
```
    else:
```

```
        print(a, " is a prime number")
```

```
else:
```

```
    print(a, " is neither prime nor composite")
```

### Output:



The screenshot displays the Spyder Python IDE interface. The left pane shows the source code for a file named 'check if prime.py'. The code implements a function to check if a number is prime. The right pane is divided into two sections: 'Usage' and 'Console'. The 'Usage' section provides information about the IDE's help system. The 'Console' section shows the execution of the program. It displays the prompt 'Enter the number to check if it is a prime : 46' followed by the output '46 is not a prime number'. Below this, it shows the prompt 'Enter the number to check if it is a prime : 23' followed by the output '23 is a prime number'. The bottom status bar indicates the current file is 'internal (Python 3.8.10)' and the memory usage is 87%.

```
1 a = int(input("Enter the number to check if it is a prime : "))
2
3 if a > 1:
4     for i in range(2, a):
5         if (a % i) == 0:
6             print(a, " is not a prime number")
7             break
8     else:
9         print(a, " is a prime number")
10 else:
11     print(a, " is neither prime nor composite")
```

Usage

Here you can get help of any object by pressing **Ctrl+H** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in **Preferences > Help**.

New to Spyder? Read our [tutorial](#)

Console 1/A X

Python 3.8.10 (tags/v3.8.10:3d8993a, May 3 2021, 11:48:03) [MSC v.1928 64 bit (AMD64)]  
Type "copyright", "credits" or "license()" for more information.

IPython 7.34.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/ASUS/Documents/python/check if prime.py', wdir='C:/Users/ASUS/Documents/python')  
Enter the number to check if it is a prime : 46  
46 is not a prime number

In [2]: runfile('C:/Users/ASUS/Documents/python/check if prime.py', wdir='C:/Users/ASUS/Documents/python')  
Enter the number to check if it is a prime : 23  
23 is a prime number

In [3]:

internal (Python 3.8.10) ↳ Completions: internal ✓ LSP: Python Line 8, Col 8 ASCII LF RW Mem 87% 04:46 PM 17-09-2022

## 2.Generate odd number from m to n using while loop:

### Program:

```
print("Finding odd numbers in a given range....")

m = int(input("From : "))

n = int(input("To :"))

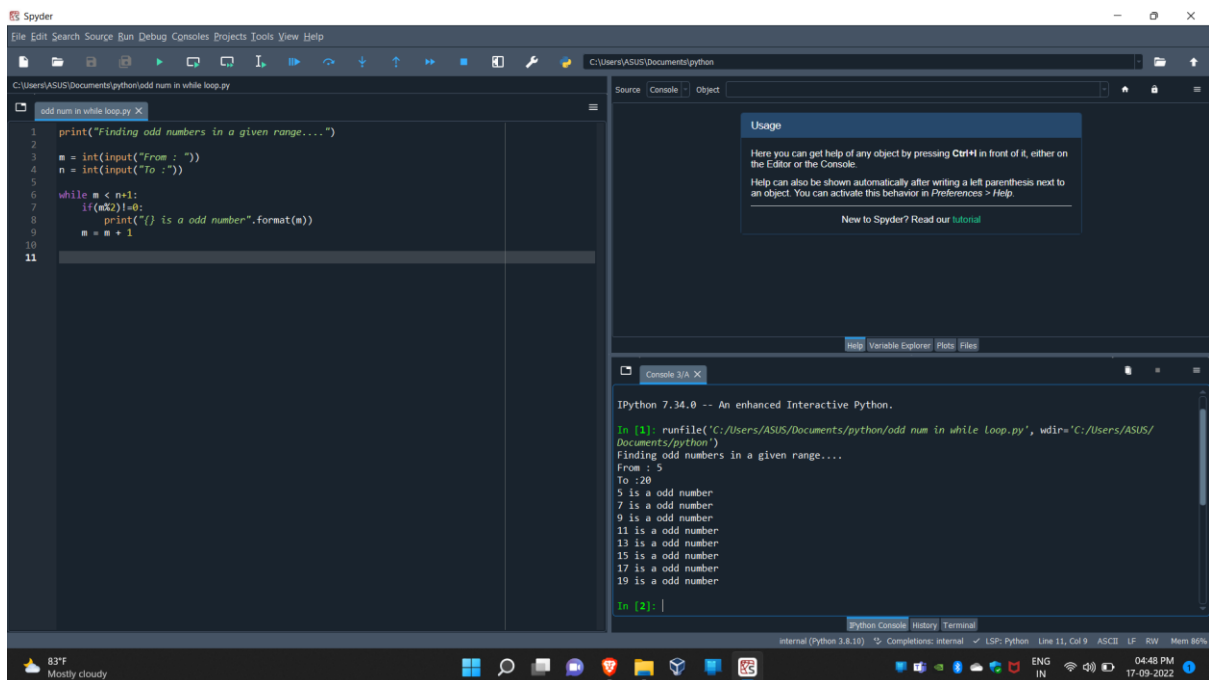
while m < n+1:

    if(m%2)!=0:

        print("{} is a odd number".format(m))

    m = m + 1
```

### Output:



The screenshot shows the Spyder Python IDE interface. The editor on the left contains the following Python code:

```
1 print("Finding odd numbers in a given range....")
2
3 m = int(input("From : "))
4 n = int(input("To :"))
5
6 while m < n+1:
7     if(m%2)!=0:
8         print("{} is a odd number".format(m))
9     m = m + 1
10
11
```

The right-hand pane shows the IPython console output:

```
IPython 7.34.0 -- An enhanced Interactive Python.
In [1]: runfile('C:/Users/ASUS/Documents/python/odd num in while loop.py', wdir='C:/Users/ASUS/
Documents/python')
Finding odd numbers in a given range....
From : 5
To : 20
5 is a odd number
7 is a odd number
9 is a odd number
11 is a odd number
13 is a odd number
15 is a odd number
17 is a odd number
19 is a odd number
In [2]:
```

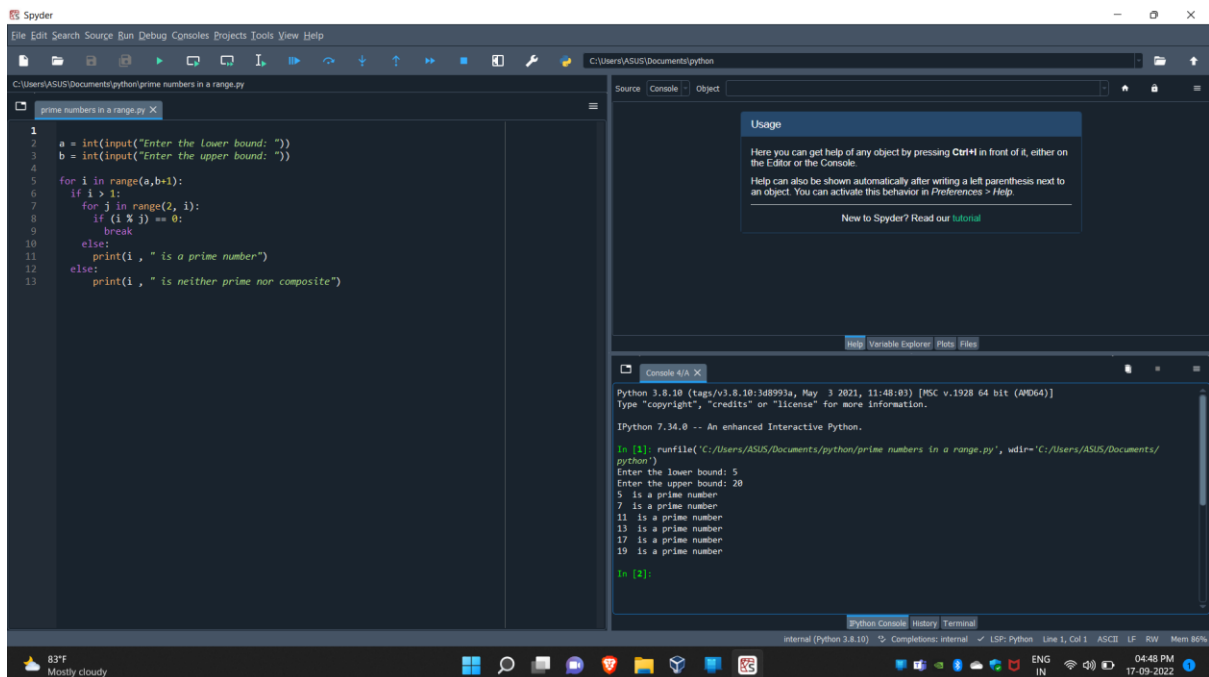
The status bar at the bottom indicates the system is at 83°F, mostly cloudy, and the time is 04:48 PM on 17-09-2022.

### 3.Display prime number series upto given number:

#### Program:

```
a = int(input("Enter the lower bound: "))
b = int(input("Enter the upper bound: "))
for i in range(a,b+1):
    if i > 1:
        for j in range(2, i):
            if (i % j) == 0:
                break
        else:
            print(i , " is a prime number")
    else:
        print(i , " is neither prime nor composite")
```

#### Output:



The screenshot shows the Spyder Python IDE interface. The main editor window displays a Python script named 'prime numbers in a range.py'. The script prompts the user for a lower bound and an upper bound, then iterates through the range to identify prime numbers. The console window on the right shows the output of the script, which lists prime numbers between 5 and 20. The status bar at the bottom indicates the system is at 83°F, mostly cloudy, and the time is 04:48 PM on 17-09-2022.

```
1 a = int(input("Enter the lower bound: "))
2 b = int(input("Enter the upper bound: "))
3
4
5 for i in range(a,b+1):
6     if i > 1:
7         for j in range(2, i):
8             if (i % j) == 0:
9                 break
10        else:
11            print(i , " is a prime number")
12    else:
13        print(i , " is neither prime nor composite")
```

Console Output:

```
Python 3.8.10 (tags/v3.8.10:3d89931a, May 3 2021, 11:48:03) [MSC v.1928 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information.

IPython 7.34.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/ASUS/Documents/python/prime numbers in a range.py', wdir='C:/Users/ASUS/Documents/python')
Enter the lower bound: 5
Enter the upper bound: 20
5 is a prime number
7 is a prime number
11 is a prime number
13 is a prime number
17 is a prime number
19 is a prime number

In [2]:
```

## 4.Generate Fibonacci Series:

### Program:

a = 0

b = 1

n = int(input("Enter the range of fibonacci numbers you wish to find : "))

print(a)

print(b)

for i in range(0,n-2):

    fib = a + b

    print(fib)

    a = b

    b = fib

    i = i + 1

### Output:

