

## Assignment -4

### Python programming

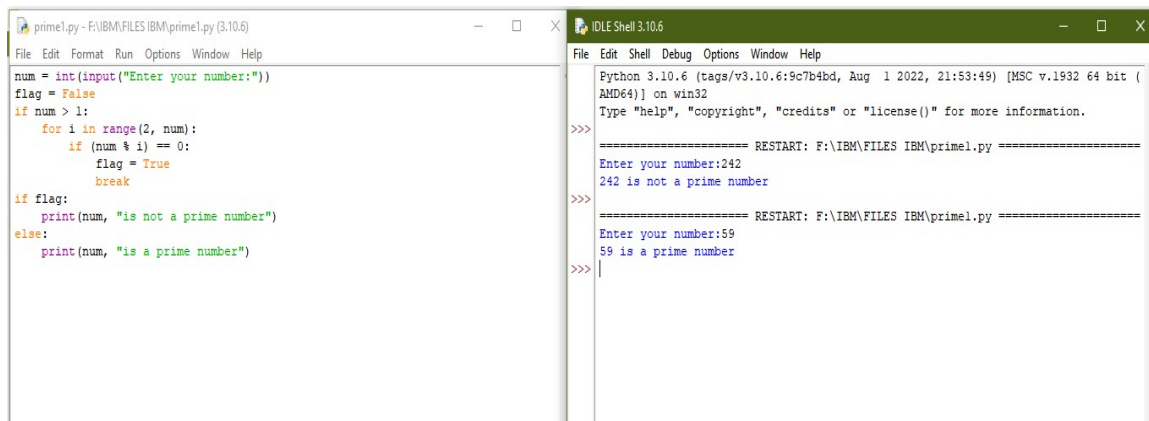
Assignment Date	19 September 2022
Student Name	MUBARAK J
Student Roll Number	820419104036
Maximum Marks	2 Marks

#### Question-1:

Write a python program to test a given number is prime or not.

#### Solution:

```
num = int(input("Enter your number:"))
flag = False
if num > 1:
    for i in range(2, num):
        if (num % i) == 0:
            flag = True
            break
if flag:
    print(num, "is not a prime number")
else:
    print(num, "is a prime number")
```



The screenshot shows a Python IDE with two windows. The left window, titled 'prime1.py - F:\IBM\FILES IBM\prime1.py (3.10.6)', contains the Python code for checking if a number is prime. The right window, titled 'IDLE Shell 3.10.6', shows the execution output. It displays the prompt 'Enter your number:242' followed by '242 is not a prime number'. Then, it shows the prompt 'Enter your number:59' followed by '59 is a prime number'.

#### Question-2:

Write a program to generate odd numbers from m to n using while loop.

#### Solution:

```
start= int(input(" Please Enter A minimum value:"))
end=int(input(" Please Enter B Maximum Value : "))
for num in range(start, end + 1):
    if num % 2 != 0:
        print(num, end = " ")
```

The screenshot shows a Python IDE with two windows. The left window, titled 'odd.py - F:\IBM\FILES IBM\odd.py (3.10.6)', contains the following code:

```
start= int(input(" Please Enter A minimum value:"))
end=int(input(" Please Enter B Maximum Value : "))
for num in range(start, end + 1):
    if num % 2 != 0:
        print(num, end = " ")
```

The right window, titled 'IDLE Shell 3.10.6', shows the execution output:

```
Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:\IBM\FILES IBM\odd.py =====
Please Enter A minimum value:367
Please Enter B Maximum Value : 400
367 369 371 373 375 377 379 381 383 385 387 389 391 393 395 397 399
>>>
```

### Question-3:

Write a python program to display prime number series up to given number.

#### Solution:

```
lower =int(input(" Please Enter minimum value:"))
upper =int(input(" Please Enter maximum value:"))

print("Prime numbers between", lower, "and", upper, "are:")

for num in range(lower, upper + 1):
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
        else:
            print(num)
```

The screenshot shows a Python IDE with two windows. The left window, titled 'prime series.py - F:\IBM\FILES IBM\prime series.py (3.10.6)', contains the following code:

```
lower =int(input(" Please Enter minimum value:"))
upper =int(input(" Please Enter maximum value:"))

print("Prime numbers between", lower, "and", upper, "are:")

for num in range(lower, upper + 1):
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
        else:
            print(num)
```

The right window, titled 'IDLE Shell 3.10.6', shows the execution output:

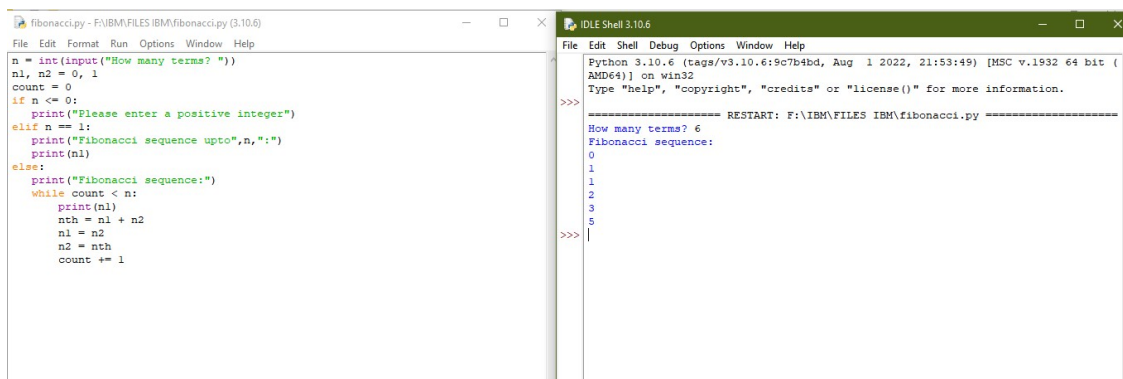
```
Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:\IBM\FILES IBM\prime series.py =====
Please Enter minimum value:100
Please Enter maximum value:200
Prime numbers between 100 and 200 are:
101
103
107
109
113
127
131
137
139
149
151
157
163
167
173
179
181
191
193
197
199
>>>
```

#### Question-4:

Write a python program to generate Fibonacci series

#### Solution:

```
n = int(input("How many terms? "))
n1, n2 = 0, 1
count = 0
if n <= 0:
    print("Please enter a positive integer")
elif n == 1:
    print("Fibonacci sequence upto",n,":")
    print(n1)
else:
    print("Fibonacci sequence:")
    while count < n:
        print(n1)
        nth = n1 + n2
        n1 = n2
        n2 = nth
        count += 1
```



The screenshot displays two windows from a Python IDE. The left window, titled 'fibonacci.py - F:\IBM\FILES IBM\Fibonacci.py (3,10,6)', contains the Python code for generating the Fibonacci series. The code prompts the user for the number of terms, handles edge cases for non-positive integers and a single term, and uses a while loop to print the sequence. The right window, titled 'IDLE Shell 3.10.6', shows the program's execution. It displays the prompt 'How many terms? 6', the output 'Fibonacci sequence:', and the resulting sequence of numbers: 0, 1, 1, 2, 3, 5. The shell also shows a restart command and the file path.

```
fibonacci.py - F:\IBM\FILES IBM\Fibonacci.py (3,10,6)
File Edit Format Run Options Window Help
n = int(input("How many terms? "))
n1, n2 = 0, 1
count = 0
if n <= 0:
    print("Please enter a positive integer")
elif n == 1:
    print("Fibonacci sequence upto",n,":")
    print(n1)
else:
    print("Fibonacci sequence:")
    while count < n:
        print(n1)
        nth = n1 + n2
        n1 = n2
        n2 = nth
        count += 1

IDLE Shell 3.10.6
File Edit Shell Debug Options Window Help
Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:\IBM\FILES IBM\Fibonacci.py =====
How many terms? 6
Fibonacci sequence:
0
1
1
2
3
5
>>>
```