

Assignment -3
Python Programming

Assignment Date	19 September 2022
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Student Roll Number	820419104037
Maximum Marks	2 Marks

Question-1:

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

```
a = int(input("enter the no : "))  
  
if a > 1:  
  
    for i in range(2, int(a/2)+1):  
  
        if (a % i) == 0:  
  
            print(a, "is not a prime number")  
  
            break  
  
else:  
  
    print(a, "is a prime number")  
  
else:  
  
    print(a, "is not a prime number")
```

The screenshot displays a Python IDE with two windows. The left window, titled 'prime.py - C:\Users\admin\prime.py (3.10.6)', contains the following code:

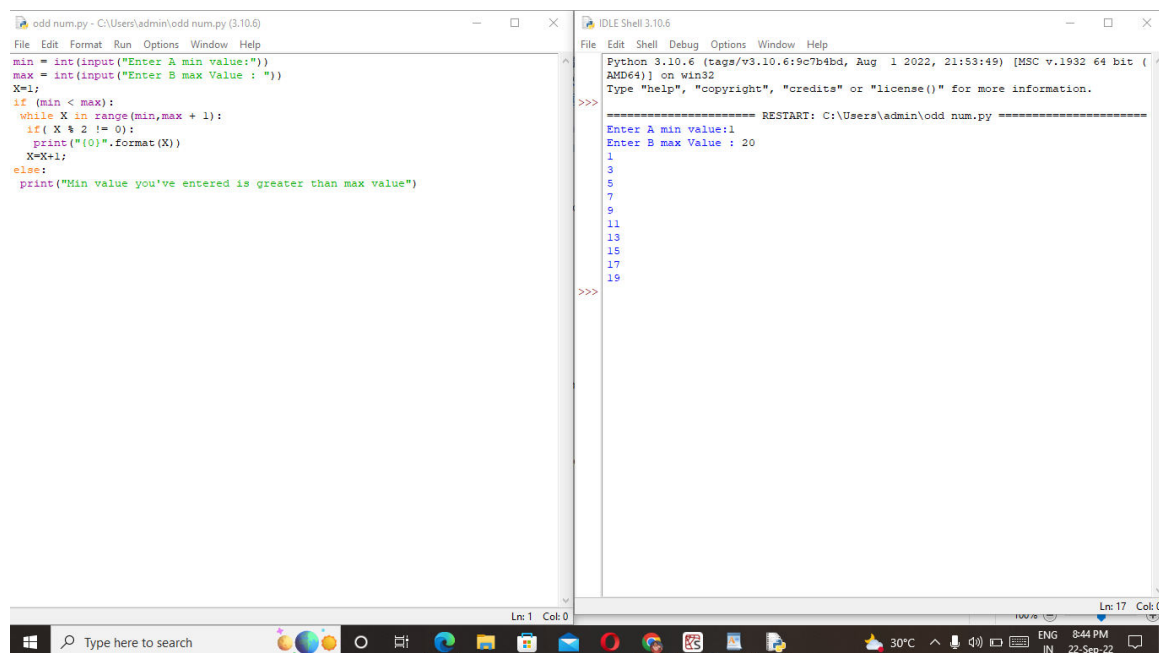
```
a = int(input("enter the no : "))  
if a > 1:  
    for i in range(2, int(a/2)+1):  
        if (a % i) == 0:  
            print(a, "is not a prime number")  
            break  
    else:  
        print(a, "is a prime number")  
else:  
    print(a, "is not a prime number")
```

The right window, titled 'IDLE Shell 3.10.6', shows the program's execution. It displays the Python version and architecture information, followed by a restart message. The user input '37' is shown, and the output '37 is a prime number' is displayed.

Question-2:

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

```
min = int(input("Enter A min value:"))
max = int(input("Enter B max Value : "))
X=1;
if (min < max):
    while X in range(min,max + 1):
        if( X % 2 != 0):
            print("{0}".format(X))
            X=X+1;
else:
    print("Min value you've entered is greater than max value")
```



The screenshot shows a Python IDE with two windows. The left window displays the code for generating odd numbers. The right window shows the execution output, where the user has entered 1 for the minimum value and 20 for the maximum value. The program then prints the odd numbers from 1 to 19.

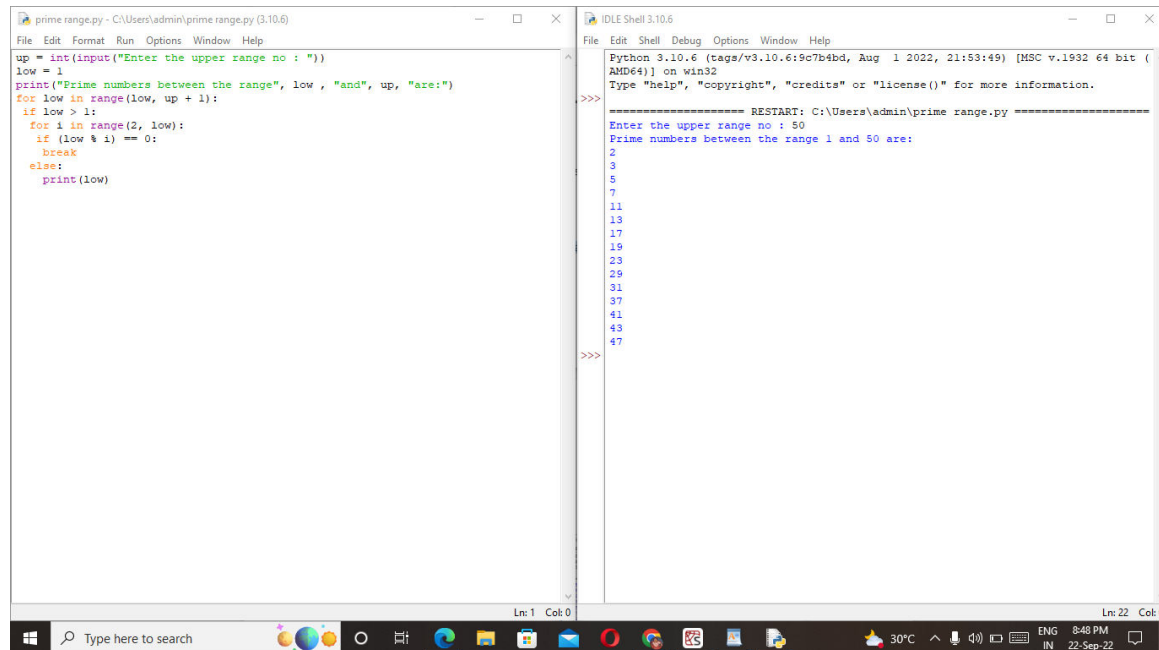
```
odd num.py - C:\Users\admin\odd num.py (3.10.6)
File Edit Format Run Options Window Help
min = int(input("Enter A min value:"))
max = int(input("Enter B max Value : "))
X=1;
if (min < max):
    while X in range(min,max + 1):
        if( X % 2 != 0):
            print("{0}".format(X))
            X=X+1;
else:
    print("Min value you've entered is greater than max value")

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: C:\Users\admin\odd num.py =====
Enter A min value:1
Enter B max Value : 20
1
3
5
7
9
11
13
15
17
19
>>>
```

Question-3:

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

```
up = int(input("Enter the upper range no : "))
low = 1
print("Prime numbers between the range",low,"and", up, "are:")
for low in range(low, up + 1):
    if low > 1:
        for i in range(2, low):
            if (low % i) == 0:
                break
        else:
            print(low)
```



The screenshot shows a Python IDE with two windows. The left window, titled 'prime range.py - C:\Users\admin\prime range.py (3.10.6)', contains the following code:

```
up = int(input("Enter the upper range no : "))
low = 1
print("Prime numbers between the range", low, "and", up, "are:")
for low in range(low, up + 1):
    if low > 1:
        for i in range(2, low):
            if (low % i) == 0:
                break
        else:
            print(low)
```

The right window, titled 'IDLE Shell 3.10.6', shows the program's execution. It displays the prompt 'Enter the upper range no : 50' and the output 'Prime numbers between the range 1 and 50 are:' followed by a list of prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, and 47.

Question-4:

Write a python program to generate Fibonacci series

```

num = int(input ("How many terms want to print? "))
num1= 0
num2= 1
count = 0
if num <= 0:
    print ("The given no is not valid,please enter +ve integer")
elif num == 1:
    print ("The Fibonacci sequence of the numbers up to", num, ": ")
    print(num1)
else:
    print ("The fibonacci sequence of the no is:")
    while count < num:
        print(num1)
        nth = num1 + num2
        num1= num2
        num2= nth
        count += 1

```

The screenshot displays a Python IDE with two windows. The left window, titled 'fibonacci.py - C:\Users\admin\fibonacci.py (3.10.6)', contains the source code for a program that calculates the Fibonacci sequence. The code prompts the user for the number of terms, checks for validity, and prints the sequence. The right window, titled 'IDLE Shell 3.10.6', shows the program's execution. It displays the prompt 'How many terms want to print? 20' and the resulting Fibonacci sequence: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181. The taskbar at the bottom shows the system date and time as 8:52 PM on 22-Sep-22.

```

fibonacci.py - C:\Users\admin\fibonacci.py (3.10.6)
File Edit Format Run Options Window Help
num = int(input ("How many terms want to print? "))
num1= 0
num2= 1
count = 0
if num <= 0:
    print ("The given no is not valid,please enter +ve integer")
elif num == 1:
    print ("The Fibonacci sequence of the numbers up to", num, ": ")
    print(num1)
else:
    print ("The fibonacci sequence of the no is:")
    while count < num:
        print(num1)
        nth = num1 + num2
        num1= num2
        num2= 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: C:\Users\admin\fibonacci.py =====
How many terms want to print? 20
The fibonacci sequence of the no is:
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181
>>>

```