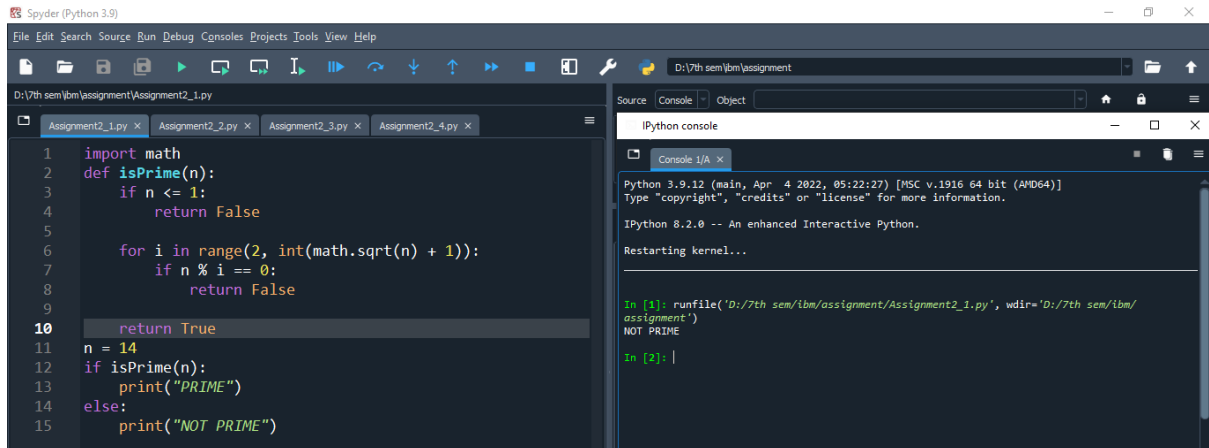


ASSIGNMENT – 2

Q 1 Write a python program to test a given number is prime or not.



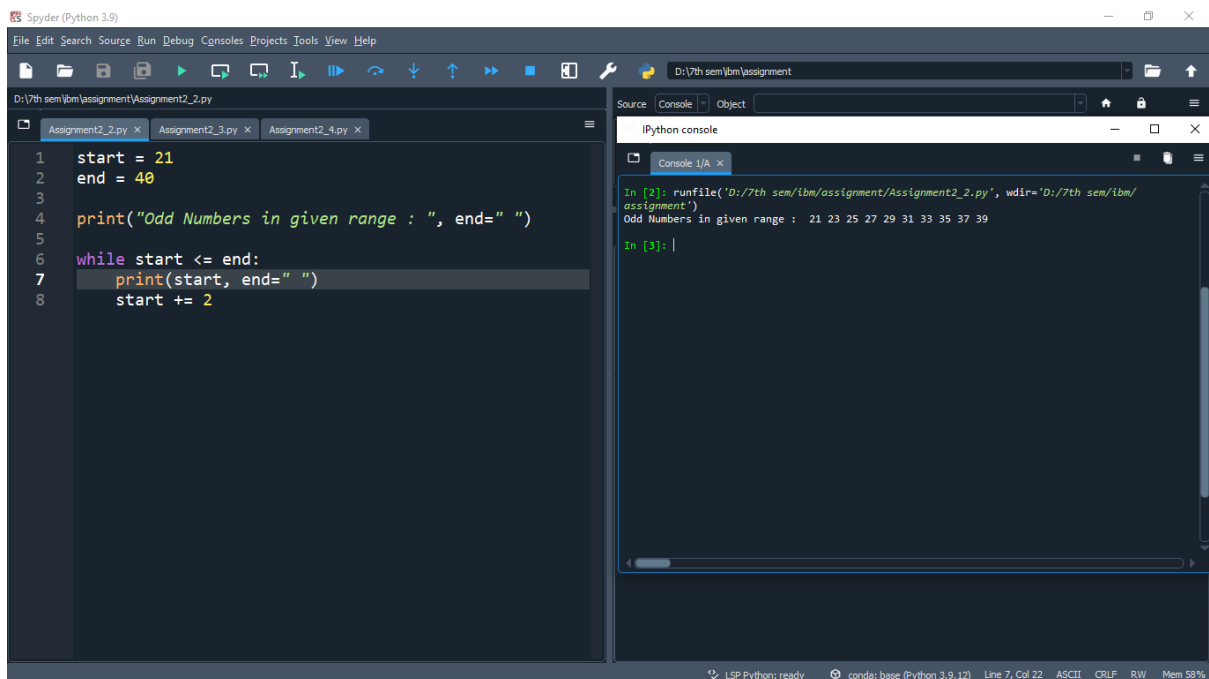
The screenshot shows the Spyder Python IDE with a file named `Assignment2_1.py` open. The code defines a function `isPrime(n)` that checks if a number is prime. It uses a loop from 2 to $\sqrt{n} + 1$. If any divisor is found, it returns `False`; otherwise, it returns `True`. The program sets `n = 14` and prints the result.

```
1 import math
2 def isPrime(n):
3     if n <= 1:
4         return False
5
6     for i in range(2, int(math.sqrt(n) + 1)):
7         if n % i == 0:
8             return False
9
10    return True
11 n = 14
12 if isPrime(n):
13     print("PRIME")
14 else:
15     print("NOT PRIME")
```

The IPython console on the right shows the output of running the file:

```
In [1]: runfile('D:/7th sem/ibm/assignment/Assignment2_1.py', wdir='D:/7th sem/ibm/assignment')
NOT PRIME
In [2]: |
```

Q 2 Write a program to generate odd numbers from m to n using while loop



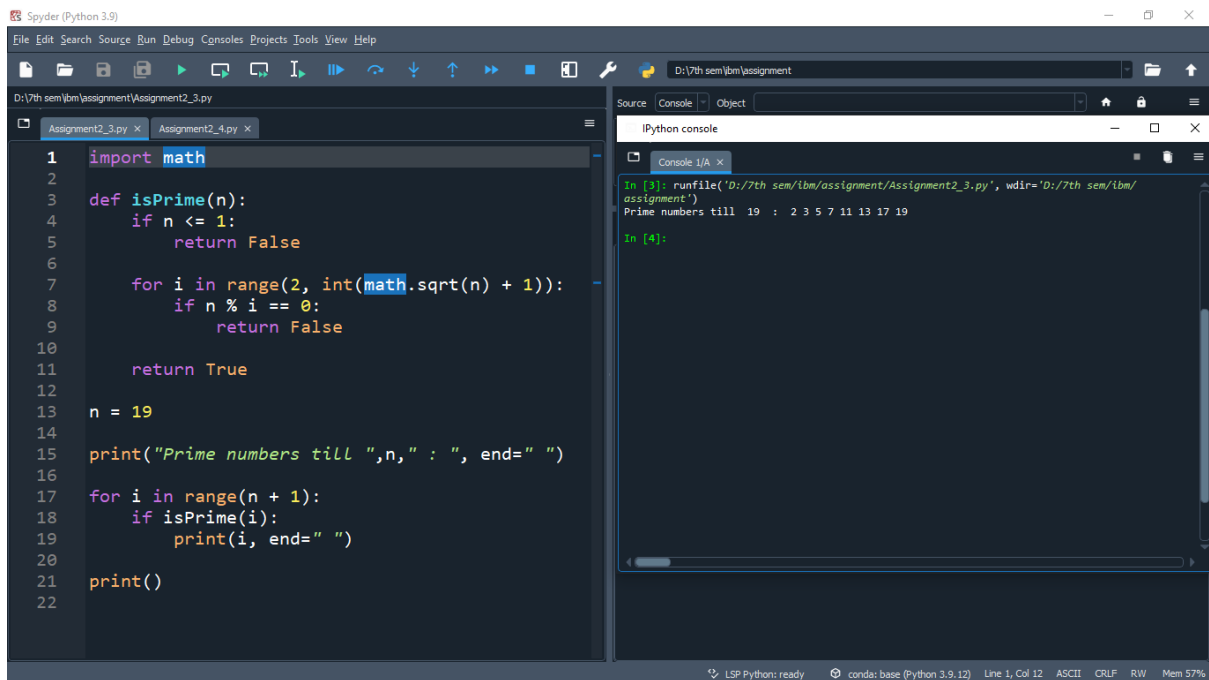
The screenshot shows the Spyder Python IDE with a file named `Assignment2_2.py` open. The code initializes `start = 21` and `end = 40`, then prints the odd numbers in the range using a while loop.

```
1 start = 21
2 end = 40
3
4 print("Odd Numbers in given range : ", end=" ")
5
6 while start <= end:
7     print(start, end=" ")
8     start += 2
```

The IPython console on the right shows the output of running the file:

```
In [2]: runfile('D:/7th sem/ibm/assignment/Assignment2_2.py', wdir='D:/7th sem/ibm/assignment')
Odd Numbers in given range :  21 23 25 27 29 31 33 35 37 39
In [3]: |
```

Q 3 Write a Python program to display prime number series up to given number.



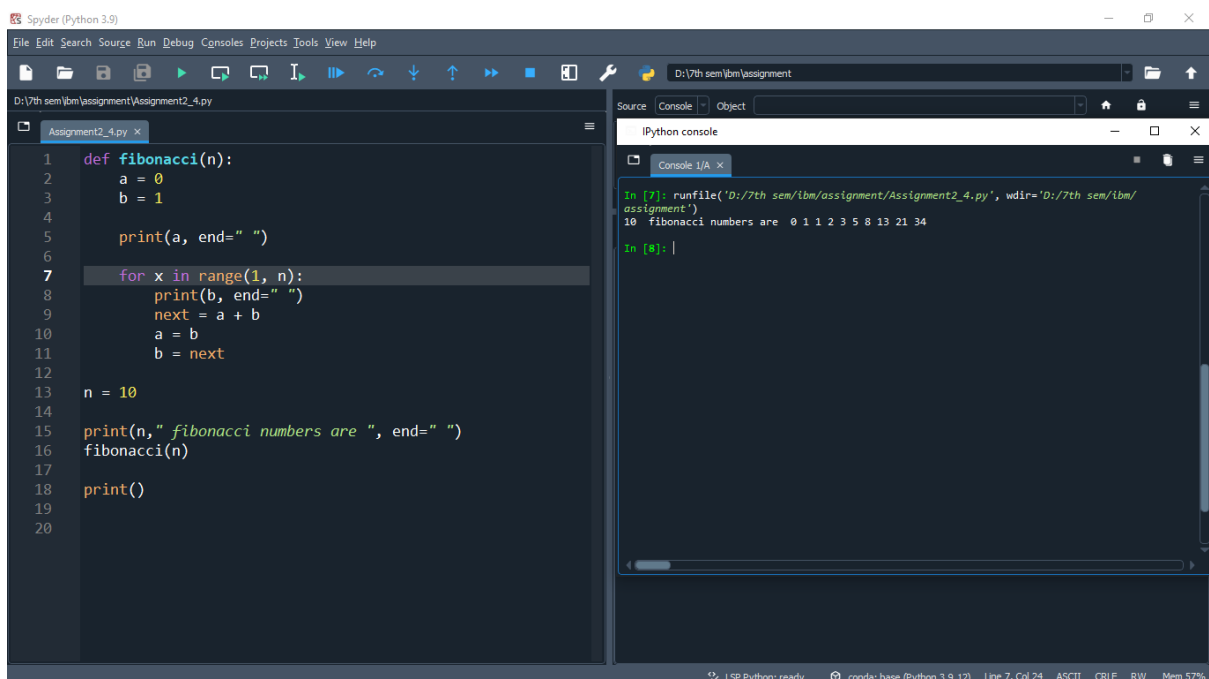
The screenshot shows the Spyder Python IDE with a file named 'Assignment2_3.py'. The code defines a function 'isPrime(n)' that checks if a number is prime by testing divisibility from 2 to the square root of n. It then prints prime numbers up to 19. The console output shows the prime numbers: 2 3 5 7 11 13 17 19.

```
1 import math
2
3 def isPrime(n):
4     if n <= 1:
5         return False
6
7     for i in range(2, int(math.sqrt(n) + 1)):
8         if n % i == 0:
9             return False
10
11     return True
12
13 n = 19
14
15 print("Prime numbers till ",n," : ", end=" ")
16
17 for i in range(n + 1):
18     if isPrime(i):
19         print(i, end=" ")
20
21 print()
```

Python console output:

```
In [3]: runfile('D:/7th sem/lbm/assignment/Assignment2_3.py', wdir='D:/7th sem/lbm/assignment')
Prime numbers till 19 : 2 3 5 7 11 13 17 19
In [4]:
```

Q 4 Write a Python program to generate Fibonacci series.



The screenshot shows the Spyder Python IDE with a file named 'Assignment2_4.py'. The code defines a function 'fibonacci(n)' that prints the first n Fibonacci numbers. It then prints the Fibonacci numbers up to 10. The console output shows the Fibonacci numbers: 0 1 1 2 3 5 8 13 21 34.

```
1 def fibonacci(n):
2     a = 0
3     b = 1
4
5     print(a, end=" ")
6
7     for x in range(1, n):
8         print(b, end=" ")
9         next = a + b
10        a = b
11        b = next
12
13 n = 10
14
15 print(n, " fibonacci numbers are ", end=" ")
16 fibonacci(n)
17
18 print()
```

Python console output:

```
In [7]: runfile('D:/7th sem/lbm/assignment/Assignment2_4.py', wdir='D:/7th sem/lbm/assignment')
10 fibonacci numbers are 0 1 1 2 3 5 8 13 21 34
In [8]:
```