TOPIC:Python Basics Variable

1.Declare two variables, `x` and `y` , and assign them integer values.Swap the values of these variables without using any temporary variable.

```
In [2]: x = 5
        y = 6
```

```
In [3]: print (x)
```
5

```
In [4]: print (y)
```
6

```
In [5]: x = x + y
        y = x - y
        x = x - y
```

After swap

```
In [7]: print("x =", x)
        print("y =", y)
```
```
x = 6
y = 5
```

2.Create a program that calculates the area of a rectangle. Take the length and width as inputs from the user and store them in variables.Calculate and display the area.

```
In [22]: lenth = float(input("Enter the lenth: ")) # taking the input from user
         width = float(input("Enter the width: ")) # taking the input from user
         area_rectangle = lenth*width # calculating area of rectangle
         print ("The Area of Rectangle is:", area_rectangle)
```

```
The Area of Rectangle is: 150.0
```

3.Write a Python program that converts temperature from Celsius to Fahrenheit. Take the temperature in Celsius as input, store it in a variable, convert it to Fahrenheit, and display the result.

```python
In [25]: temperature_in_Celsius = float(input("Enter the temperature in Celsius: "))
         #converting celsius to fahrenheit
         fahrenheit = (temperature_in_Celsius * 9/5) + 32
         print ("Temperature in Fahrenheit:", fahrenheit)
```

```
Temperature in Fahrenheit: 50.0
```

TOPIC: String Based Questions

1.Write a Python program that takes a string as input and prints the length of the string.

```python
In [1]: my_string = input("Write your word: ")
        length = len(my_string)
        print ("My String length is:", length)
```

```
My String length is: 5
```

2.Create a program that takes a sentence from the user and counts the number of vowels (a, e, i, o, u) in the string.

```python
In [6]: user_input = input("Type your sentence: ")
        vowels_count = 0
        for char in user_input:
            char_lower = char.lower() # lower the string
        if char_lower in "aeiou":
            vowels_count += 1
        print("Number of vowels:", vowels_count)
```

```
Number of vowels: 1
```

3.Given a string, reverse the order of characters using string slicing and print the reversed string.

```python
In [7]:  input_string = input("Enter your string:")
         reversed_string = input_string[::-1]  #slicing should start from the end of the string and move backwards
         print ("reversed string:", reversed_string)
```

reversed string: dagnA

4.Write a program that takes a string as input and checks if it is a palindrome (reads the same forwards and backwards)

```python
In [1]:  # Step 1: Get input from the user
         input_string = input("Enter a string: ")

         # Step 2: Remove spaces and convert the input string to lowercase
         cleaned_string = input_string.replace(" ", "").lower()

         # Step 3: Reverse the cleaned string using slicing
         reversed_string = cleaned_string[::-1]  ##slicing should start from the end of the string and move backwards,

         # Step 4: Compare the cleaned string with its reverse to check for palindrome
         if cleaned_string == reversed_string:
             print("The input string is a palindrome.")
         else:
             print("The input string is not a palindrome.")
```

The input string is not a palindrome.

5.Create a program that takes a string as input and removes all the spaces from it. Print the modified string without spaces.

```python
In [ ]:
```