Day 2 of Python Assignment Answers -

4.Write a Python program to swap two variables?

```python
a = 10
b = 20


a,b = b,a
```

Here, the values of a and b are simultaneously swapped by assigning the value of b to a and the value of a to b.

This method uses tuple packing and unpacking to swap the values. When you write a, b = b, a, Python creates a tuple (b, a) and unpacks it into the variables a and b. The old values of a and b are discarded, and the new values are assigned in a single statement.

This method is shorter and more elegant than using a temporary variable, and it's also faster because it doesn't require a third variable to be created.

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5. Write a Python program to generate a random number

```python
import random

random_number = random.randint(1, 100)
print(random_number)
```

Here, we import the random module and use the randint( ) function to generate a random integer between 1 and 100. The randint( ) function takes two arguments: the lower bound of the range and the upper bound of the range (both inclusive).

6. Write a Python program to convert Celsius to Fahrenheit.

```python
celsius = float(input("Enter temperature in Celsius: ")
fahrenheit = (celsius * 1.8) + 32
print("Temperature in Fahrenheit: ", fahrenheit)
```

```python
def celsius_to_fahrenheit(celsius: float) -> float:
    """Converts Celsius temperature to Fahrenheit.

    Args:
        celsius (float): Temperature in Celsius.

    Returns:
        float: Temperature in Fahrenheit.
    """

    fahrenheit = (celsius * 1.8) + 32
    return fahrenheit
```

1st Image -

Here, we use the input() function to get a temperature in Celsius from the user, convert it to a float using the float() function, and then use the above formula to convert it to Fahrenheit. Finally, we use the print() function to display the temperature in Fahrenheit.

2nd Image -

The function takes a float value representing a temperature in Celsius as input and returns the temperature converted to Fahrenheit. The docstring describes the purpose of the function, the input parameter, and the output value.