ASSIGNMENT -02

SUBJECT:PYTHON PROGRAMMING

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Assignment-02

Question 1: Variables and Data Types

Problem: Write a Python program that:

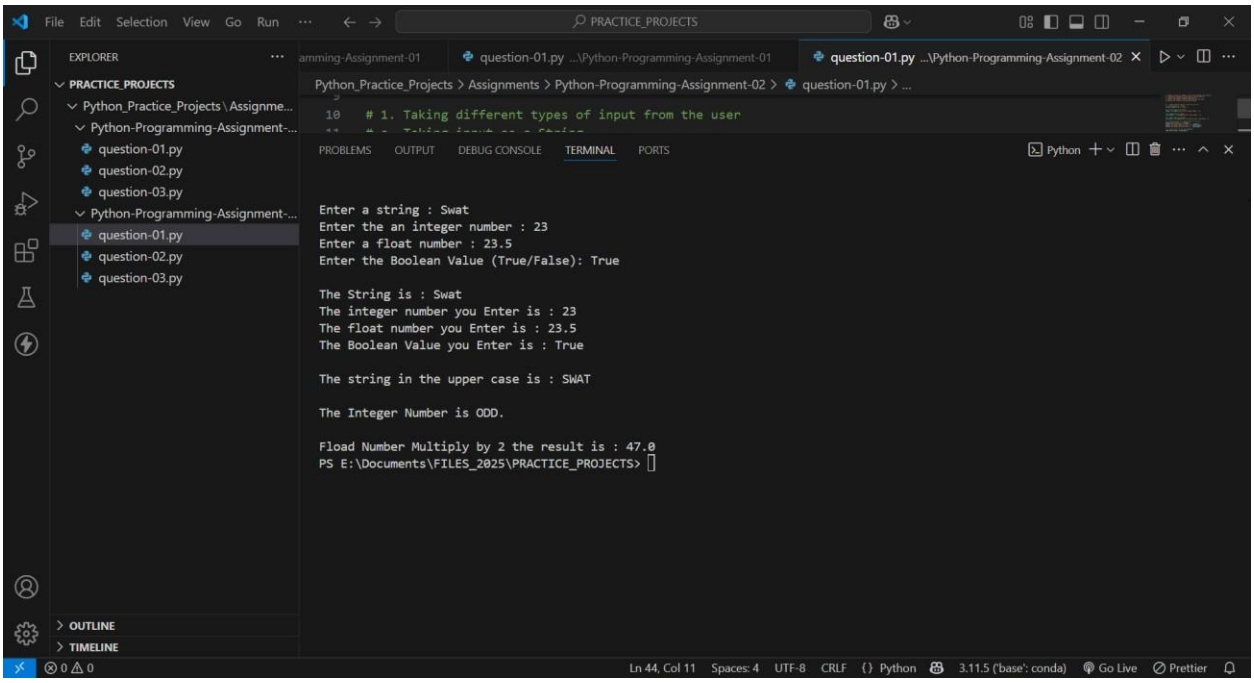
1. Accepts a string, an integer, a float, and a boolean from the user.
2. Initializes variables for each type, and prints them out.
3. Convert the string to uppercase and print it.
4. Check if the integer is even or odd and print the result.
5. Multiply the float by 2 and print the result.

Solution:

```
# 1. Taking different types of input from the user
# a. Taking input as a String
string = input("Enter a string : ")

# b. Taking input as an Integer
number = int(input("Enter the an integer number : "))

# c. Taking input as a float
float_number = float(input("Enter a float number : "))

# d. Taking input as a boolean
bool_value = bool(input("Enter the Boolean Value (True/False): "))

# 2. Printing Ouputs of the Input taken from the User
print(f"The String is : {string}")
print(f"The integer number you Enter is : {number}")
print(f"The float number you Enter is : {float_number}")
print(f"The Boolean Value you Enter is : {bool_value}")

# 3. Converting the string into UPPERCASE
upper_case_string = string.upper()
print(f"The string in the upper case is : {upper_case_string}")


# 4. Checking that the Integer number is ODD or EVEN
if number%2 == 0:
    print("The Integer Number is EVEN.")

else:
    print("The Integer Number is ODD.")


# 5. Multiply the float by 2 and print the result.
```

```
mul = float_number * 2
print(f"Fload Number Multiply by 2 the result is : {mul}")
```

Output:



Question 2: Operators

Problem: Write a Python program that:

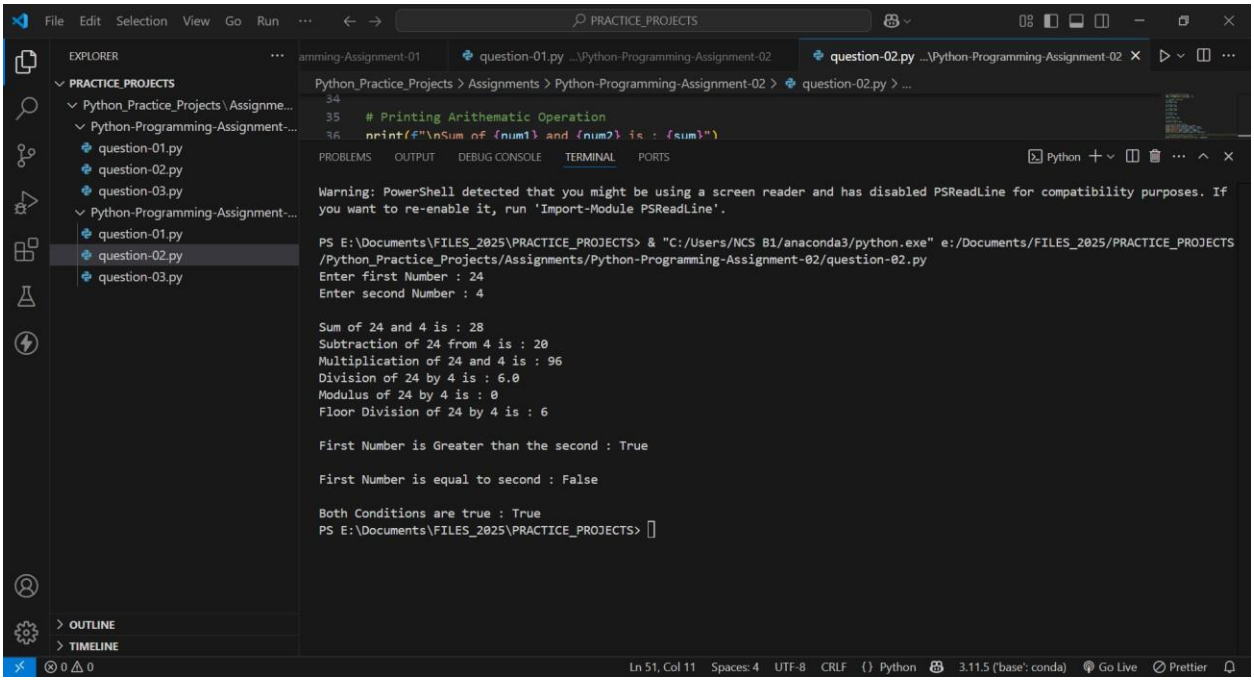
1. Accepts two numbers as input from the user.
2. Performs and prints the result of all the arithmetic operations (addition, subtraction, multiplication, division, modulus, flow division) between these two numbers.
3. Use comparison operators to check if the first number is greater than the second, and if they are equal.
4. Use logical operators to combine two conditions (e.g., the first number is greater than the second, and the second number is less than 10).

Solution:

```
# 1. Taking 2 numbers from the user
num1 = int(input("Enter first Number : "))
num2 = int(input("Enter second Number : "))

# 2. ARITHMETIC OPERATIONS
```

```python
# a.Addition
sum = num1 + num2

# b.Subtraction
sub = num1 - num2

# c.Multiplication
mul = num1 * num2

# d.Division
div = num1 / num2

# e. Modulus
modulus = num1 % num2

# f.floor Division
floor_div = num1 // num2

# Printing Arithematic Operation
print(f"\nSum of {num1} and {num2} is : {sum}")
print(f"Subtraction of {num1} from {num2} is : {sub}")
print(f"Multiplication of {num1} and {num2} is : {mul}")
print(f"Division of {num1} by {num2} is : {div}")
print(f"Modulus of {num1} by {num2} is : {modulus}")
print(f"Floor Division of {num1} by {num2} is : {floor_div}")

# 3. Using comparison operators to check if the first number is greater than the second, and if they are equal.
# a.first number is greater than the second
print(f"\nFirst Number is Greater than the second : {num1>num2}")

# b.first number is eqaul to second
print(f"\nFirst Number is equal to second : {num1==num2}")

# 4. Use logical operators to combine two conditions (e.g., the first number is greater than the second, and the second number is less than 10).
print(f"\nBoth Conditions are true : {num1>num2 and num2<10}")
```

OUTPUT:



Question 3: Loops Problem:

Problem: Write a Python program that:

1. Accepts a list of integers from the user.
2. Loops through the list and prints out each number.
3. If a number is greater than 10, skip it using the continue statement.
4. Stop the loop if the number is 20 using the break statement.
5. After the loop ends, print a message that the loop ended naturally.

Solution:

```
# 1. Accepts a list of integers from the user.
length_of_list = int(input("Enter Length of the list : "))

integer_list = []


for i in range(length_of_list):
    nums =int(input(f"Enter element {0 + i} : "))
    integer_list.append(nums)

# Complete Integer list
```

```python
print(f"\nComplete Integer List is {integer_list}")

# 2. Loops through the list and prints out each number.
print("\nPrinting Each Number Of The List\n")
for i in integer_list:

    # 3. number is greater than 10 will skip
    if i > 10 and i!=20:
        print(f"Elements of the list {i} is Skipping")
        continue

    # 4. loop stop if the number is 20
    if i == 20:
        print(f"Loop Breaks at {i}")
        break

    print(f"Elements of the list is {i}")

# 5. After the loop ends, print a message that the loop ended naturally.
print("The Loop Ended Naturally.")
```

Ouput: