WEEK 1 SOLUTION

NOTE:

- **No need to submit anywhere, just keep track of all the PDF you made in a specific folder.**
- **Compare your solution with the solution I'll provide, in case of doubts, we will have doubt session at 4:00PM.**
- **You may get assignment solution in format of PDF or VIDEO solution, depending on the difficulty level.**

Q1. Write a program to print absolute value of a number entered by user.

Example 1

Input = -18

Output = 18

Example 2

Input = 9

Output = 9

```python
num: int = int(input("Enter a number = "))

if num < 0:
    print(num * -1)
else:
    print(num)
```

Q2. Given three angles of a triangle, determine whether it is an acute, obtuse, or right-angled triangle.

```python
angle1: float = float(input("Enter the first angle in degrees: "))
angle2: float = float(input("Enter the second angle in degrees: "))
angle3: float = float(input("Enter the third angle in degrees: "))

sum_of_angles = angle1 + angle2 + angle3

# Check the type of triangle
if sum_of_angles == 180:
    if angle1 == 90 or angle2 == 90 or angle3 == 90:
        triangle_type = "Right-angled"
    elif angle1 < 90 and angle2 < 90 and angle3 < 90:
        triangle_type = "Acute-angled"
    else:
        triangle_type = "Obtuse-angled"
    print(f"The triangle is {triangle_type}")
else:
    print("Invalid. Sum of angles in a triangle should be 180 degrees")
```

Q3. What will be the output of following expression, try to guess without running.

1 + (3 - 4) * 2 ** 10 // 6

Answer = -170

Q4. What will be the output of the following Python code snippet?

print(type(5/2))

print(type(5//2))

float

int

Q5. What will the output of the following code?

```
print(2**4 + (5 + 5)**(1 + 1))
```

Output: 116

Q6. Guess the output

```
a = True
b = False
c = True

result = (a and b) or (not c)

print(result)
```

Output: False

Q7. Guess the output.

```
a = 10
b = 20
c = 5

result = (a > b) or (not (c > b)) and (a + b == 30)

print(result)
```
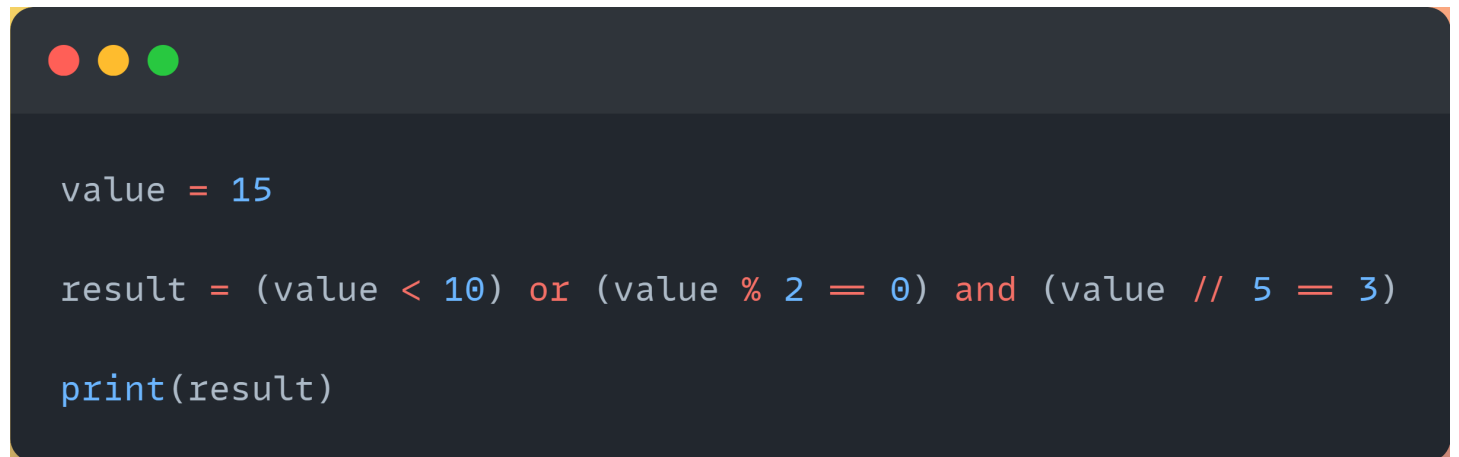
Output: True

Q8. Guess the output.

```
m = 7
n = 3

result = (m // n == 2) and (m % n == 1) or (m + n > 10)

print(result)
```

Output: True

Q9. Guess the output.

```python
value = 15

result = (value < 10) or (value % 2 == 0) and (value // 5 == 3)

print(result)
```

Output: False