ASSIGNMENT 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, kindly reach out to me.**
- **You may get assignment solution in format of PDF or VIDEO solution, depending on the difficulty level.**

Q1. There are two variables.

a=5

b=10

What will be the output of following:

- a > 5 and b >= 10
  - a is 5, which is not greater than 5. So, the first part (a > 5) is False.
  - b is 10, which is equal to 10. So, the second part (b >= 10) is True.
  - The overall expression is False (False and True).
- a >= 5 or not b > 10
  - a is 5, which is equal to 5. So, the first part (a >= 5) is True.
  - b is 10, which is greater than 10. So, the second part (not b > 10) is False.
  - The overall expression is True (True or False).
- not (a > 5 and b > 5)
  - a is 5, which is not greater than 5. So, the first part (a > 5) is False.
  - b is 10, which is greater than 5. So, the second part (b > 5) is True.
  - The expression inside the parentheses is False (False and True), and the not negates it, resulting in True.
- not (a < 10 or not b < 10)
  - a is 5, which is less than 10. So, the first part (a < 10) is True.

- b is 10, which is not less than 10. So, the second part (not b < 10) is False.
- The expression inside the parentheses is True (True or False), and the not negates it, resulting in False.

- not (not a <= 5 or not b >= 10)
  - a is 5, which is equal to 5. So, the first part (not a <= 5) is False.
  - b is 10, which is greater than 10. So, the second part (not b >= 10) is False.
  - The expression inside the parentheses is False (False or False), and the not negates it, resulting in True.

Q2. Python program to convert kilometers to miles. Ask kilometer from User.

```
kilometers = float(input("Enter distance in kilometers: "))
conversion_factor = 0.621371 # Check formula to convert kilometers to miles
miles = kilometers * conversion_factor

print(f"{kilometers} kilometers is equal to {miles} miles.")
```

Q3. Ask 3 numbers from User and Calculate the Average.

```
num1: float = float(input("Enter the first number: "))
num2: float = float(input("Enter the second number: "))
num3: float = float(input("Enter the third number: ""))

# Calculate the average
average: float = (num1 + num2 + num3) / 3

# Display the result
print(f"The average of {num1}, {num2}, and {num3} is {average}.")
```

Q4. Ask value in Rupees and Convert into Paise.

```python
rupees: int= int(input("Enter value in Rupees: "))

paise: int = rupees * 100

print(f"{rupees} Rupees is equal to {paise} Paise.")
```

Q5. Calculate Area of Square by taking side from User.

```python
side_length: float = float(input("Enter the side length of the square: "))

area: float = side_length ** 2

print(f"The area of the square with side length {side_length} is {area}.")
```

Q6. Ask number of games played in a tournament. Ask the user number of games won and number of games loss. Calculate number of tie and total Points. (1 win= 4 points, 1 tie =2 points)

```python
games_played: int = int(input("Enter the number of games played: "))
games_won: int = int(input("Enter the number of games won: "))
games_lost: int = int(input("Enter the number of games lost: "))

# Calculate the number of ties
games_tied: int = games_played - games_won - games_lost

# Calculate total points
total_points: int = (games_won * 4) + (games_tied * 2)

print(f"Number of ties: {games_tied}")
print(f"Total points: {total_points}")
```

Q7. Check if the number entered by User is divisible by 3 or not.

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

# Check if the number is divisible by 3
if user_number % 3 == 0:
    print(f"{user_number} is divisible by 3.")
else:
    print(f"{user_number} is not divisible by 3.")
```

Q8. Ask a number from user. Print if the number is ODD or EVEN.

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

# Check if the number is ODD or EVEN
if user_number % 2 == 0:
    print(f"{user_number} is an EVEN number.")
else:
    print(f"{user_number} is an ODD number.")
```

Q9. Take values of length and breadth of a rectangle from user and check if it is square or not.

```python
length: float = float(input("Enter the length of the rectangle: "))
breadth: float = float(input("Enter the breadth of the rectangle: "))

# Check if it is a square or rectangle
if length == breadth:
    print("It is a square.")
else:
    print("It is a rectangle.")
```