ASSIGNMENT-2

PROGRAM:

Scenario: Write a Python program to (1) exchange the values of two variables, (2) circulate the values among three variables, and (3) calculate the distance between two points. Input Format: Two or three variables, coordinates for distance. Expected Output: Swapped values, circulated values, and calculated distance. Sample Test Cases: Task Input Output Swap a=3, b=5 a=5, b=3 Circulate a=1, b=2, c=3 a=3, b=1, c=2 Distance (x1,y1)= (1,2), (x2,y2)= (4,6) 5.0

```
import math


# 1. Swap values of two variables
def swap_values(a, b):
    print(f"Original: a = {a}, b = {b}")
    a, b = b, a
    print(f"Swapped: a = {a}, b = {b}")
    return a, b


# 2. Circulate values among three variables
def circulate_values(a, b, c):
    print(f"Original: a = {a}, b = {b}, c = {c}")
    a, b, c = c, a, b
    print(f"Circulated: a = {a}, b = {b}, c = {c}")
    return a, b, c


# 3. Calculate distance between two points
def calculate_distance(x1, y1, x2, y2):
    distance = math.sqrt((x2 - x1)**2 + (y2 - y1)**2)
    print(f"Distance between ({x1},{y1}) and ({x2},{y2}) is {distance}")
    return distance


# Test cases
```

```
# Swap
swap_values(3, 5)
print()  # Blank line for separation

# Circulate
circulate_values(1, 2, 3)
print()

# Distance
calculate_distance(1, 2, 4, 6)
```

Output

```
Original: a = 3, b = 5
Swapped: a = 5, b = 3

Original: a = 1, b = 2, c = 3
Circulated: a = 3, b = 1, c = 2

Distance between (1,2) and (4,6) is 5.0
```