**Netaji Subhash Engineering College**

**Department of Computer Science & Engineering**

**B. Tech CSE 2nd Year 3rd Semester**

**2023-2024**

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**Course Code: PCC-CS393**

**Name of the Student: SANTWAN PATHAK**

**Class Roll No.: 158**

**University Roll No.: 10900122161**

**Date of Experiment: 28th July 2023**

**Date of Submission: 11th August 2023**

**Assignment No : 1**

**Problem Statement** : Write a program to convert temperature from degree Celsius to degree Fahrenheit.

Python Code :

celsius = float(input("Enter the temperature in degrees Celsius: "))

fahrenheit = celsius \* 9 / 5 + 32

print(f"{celsius} degrees Celsius is equal to {fahrenheit} degrees Fahrenheit.")

Sample Outputs :

Enter the temperature in degrees Celsius: 45.7

45.7 degrees Celsius is equal to 114.26 degrees Fahrenheit.

Enter the temperature in degrees Celsius: 35

35.0 degrees Celsius is equal to 95.0 degrees Fahrenheit.

**Assignment No : 2**

**Problem Statement :** Write a program to calculate the area and perimeter of a rectangle.

Python Code :

width = float(input("Enter the width of the rectangle: "))

height = float(input("Enter the height of the rectangle: "))

area = width\*height

perimeter = 2\*width\*height

print(f"The area of the rectangle is {area}.")

print(f"The perimeter of the rectangle is {perimeter}.")

Sample Outputs :

Enter the width of the rectangle: 45

Enter the height of the rectangle: 98

The area of the rectangle is 4410.0.

The perimeter of the rectangle is 8820.0.

Enter the width of the rectangle: 20

Enter the height of the rectangle: 12

The area of the rectangle is 240.0.

The perimeter of the rectangle is 480.0.

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**Assignment No : 3**

**Problem Statement :** Write a program to swap the value of two variables using a third variable and without

Using a third variable.

**Python Code :**

# Swapping without using a third variable

a = int(input("Enter First Number : "))

b = int(input("Enter Second number : "))

a = a + b

b = a - b

a = a - b

print("After swapping (without using third variable):")

print("a =", a)

print("b =", b)

# Swapping using a third variable

a = int(input("Enter First Number : "))

b = int(input("Enter Second number : "))

temp = a

a = b

b = temp

print("After swapping (using third variable):")

print("a =", a)

print("b =", b)

Sample Outputs :

Enter First Number : 32

Enter Second number : 16

After swapping (without using third variable):

a = 16

b = 32

Enter First Number : 50

Enter Second number : 75

After swapping (using third variable):

a = 75

b = 50

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**Assignment No : 4**

**Problem Statement :** Write a program to swap two numbers using bitwise operators.

**Python Code :**

# Python program to demonstrate

# Swapping of two variables

x = 10

y = 50

# Swapping using xor

x = x ^ y

y = x ^ y

x = x ^ y

print("Value of x:", x)

print("Value of y:", y)

Sample Output :

Value of x: 50

Value of y: 10

**Assignment No : 5**

**Problem Statement :** Write a program to rotate the value of x, y, and z such that x has the value of y, y has the value of z and z has the value of x.

**Python Code :**

x = int(input("Enter First Number : "))

y = int(input("Enter Second number : "))

z = int(input("Enter Third Number : "))

# Rotate the values

temp = x  # Store the value of x in a temporary variable

x = y     # Assign the value of y to x

y = z     # Assign the value of z to y

z = temp  # Assign the original value of x (stored in temp) to z

# Print the rotated values

print("x:", x)

print("y:", y)

print("z:", z)

Sample Outputs :

Enter First Number : 5

Enter Second number : 8

Enter Third Number : 0

x: 8

y: 0

z: 5

Enter First Number : 90

Enter Second number : 60

Enter Third Number : 30

x: 60

y: 30

z: 90

**Assignment No : 6**

**Problem Statement :** Write a program to take input from the user and display input number like this following numbers: 5678, 678, 78, 8, where the given number is 5678( for example only )

**Python Code :**

user\_input = input("Enter a number: ")

input\_number = int(user\_input)

num\_str = str(input\_number)

length = len(num\_str)

for i in range(length):

    print(num\_str[i:], end="")

    if i < length - 1:

        print(",", end="")

print()

**Sample Outputs :**

Enter a number: 89790

89790,9790,790,90,0

**Assignment No : 7**

**Problem Statement :** Write a program to add two complex number

**Python Code :**

c1 = complex(input("Enter First Complex Number: "))

c2 = complex(input("Enter second Complex Number: "))

print("Sum of both the Complex number is", c1 + c2)

**Sample Outputs :**

Enter First Complex Number: 7+5j

Enter second Complex Number: 9+9j

Sum of both the Complex number is (16+14j)

Enter First Complex Number: 5

Enter second Complex Number: 7

Sum of both the Complex number is (12+0j)

**Assignment No : 8**

**Problem Statement :** Write a program to accept the principal amount, rate of interest, and duration from the user. Calculate the interest amount and the total amount (principal + interest)

**Python Code :**

# Accepting input from the user

principal = float(input("Enter the principal amount: "))

rate\_of\_interest = float(input("Enter the rate of interest (%): "))

duration = float(input("Enter the duration (in years): "))

# Calculating the interest amount

interest\_amount = (principal \* rate\_of\_interest \* duration) / 100

# Calculating the total amount

total\_amount = principal + interest\_amount

# Printing the results

print(f"Interest amount: {interest\_amount:.2f}")

print(f"Total amount: {total\_amount:.2f}")

Sample Outputs :

Enter the principal amount: 34000

Enter the rate of interest (%): 5

Enter the duration (in years): 2

Interest amount: 3400.00

Total amount: 37400.00

Enter the principal amount: 550000

Enter the rate of interest (%): 7

Enter the duration (in years): 5

Interest amount: 192500.00

Total amount: 742500.00