Netaji Subhash Engineering College
Department of Computer Science & Engineering
B. Tech CSE 2nd Year 3rd Semester
2023-2024

Name of the Course: IT Workshop (Python)

Course Code: PCC-CS393

Name of the Student:

Class Roll No.:

University Roll No.:

Date of Experiment:

Date of Submission:

Assignment No. : 1

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

Python Code:

```python
TempCelsius=int(input("Enter the temperature which you want to convert:"))
TempFahrenheit=((TempCelsius*9)/5)+32
print(TempCelsius, "degree C =", TempFahrenheit, "degree F")
```

Sample Output:

```
Enter the temperature which you want to convert:45
45 degree C = 113.0 degree F
```

Assignment No. : 2

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

Python Code:
```python
import math
def AreaTri(s1,s2,s3):
    s=(s1+s2+s3)/2
    area=math.sqrt(s*(s-s1)*(s-s2)*(s-s3))
    return area
def PeriTri(s1,s2,s3):
    return s1+s2+s3
```

```python
s1,s2,s3=map(int,input("Enter the length of the 3 sides").split())
print("What do you want to calculate?\n1. Area \n 2. Perimeter")
ans=int(input("Enter 1 or 2"))
if ans==1:
   print(AreaTri(s1,s2,s3))
else:
   print(PeriTri(s1,s2,s3))
```

Sample Output:

```
Enter the length of the 3 sides: 4 5 7      Enter the length of the 3 sides: 4 5 7
What do you want to calculate?              What do you want to calculate?
1. Area                                     1. Area
2. Perimeter                                2. Perimeter
Enter 1 or 2:1                              Enter 1 or 2:2
Area = 9.797958971132712                    Perimeter = 16
```

Assignment No. : 3(a)
Problem Statement: Write a program to swap the value of two variables using a third variable.
Python Code:

```python
a=int(input("Enter the first number:"))
b=int(input("Enter the second number:"))
temp=a
a=b
b=temp
print("The modified value of first number is =",a)
print("The modified value of second number is =",b)
```

Sample Output:

```
Enter the first number:43
Enter the second number:29
The modified value of first number is = 29
The modified value of second number is = 43
```

Assignment No. : 3(b)
Problem Statement: Write a program to swap the value of two variables without using a third variable.
Python Code:

```python
a=int(input("Enter the first number:"))
b=int(input("Enter the second number:"))
a,b = b,a
print("The modified value of first number is =",a)
print("The modified value of second number is =",b)
```

Sample Output:

```
Enter the first number:43
Enter the second number:29
The modified value of first number is = 29
The modified value of second number is = 43
```

Assignment No. : 4

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

Python Code:
```python
a=int(input("Enter the first number:"))
b=int(input("Enter the second number:"))
temp=a
a=b
b=temp
print("The modified value of first number is =",a)
print("The modified value of second number is =",b)
```

Sample Output:
```
Enter the first number:37
Enter the second number:23
The modified value of first number is = 23
The modified value of second number is = 37
```
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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:
```python
x=int(input("Enter the first number:"))
y=int(input("Enter the second number:"))
z=int(input("Enter the third number:"))
x,y,z=y,z,x
print("The modified values of the given numbers are:")
print("First number =",x)
print("Second number =",y)
print("Third number =",z)
```

Sample Output:
```
Enter the first number:31
Enter the second number:29
Enter the third number:47
The modified values of the given numbers are:
First number = 29
Second number = 47
Third number = 31
```
_____

Assignment No. : 6

Problem Statement: Write a program to display the following numbers: 5678, 678, 78, 8, where the given number is 5678.

Python Code:

```python
a=int(input("Enter the number:"))
x=len(str(a))
while x>0:
    print(a%(10**x))
    x=x-1
```

Sample Output:

```
Enter the number:5678
5678
678
78
8
```

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Assignment No. : 7

Problem Statement: Write a program to add two complex numbers by reading the numbers from the user.

Python Code:

```python
fr,fc=map(int,input("Enter the real and complex part of the first number: (with space)").split())
f=complex(fr,fc)
sr,sc=map(int,input("Enter the real and complex part of the second number: (with space)").split())
s=complex(sr,sc)
print(f+s)
```

Sample Output:

```
Enter the real and complex part of the first number: (with space)5 7
Enter the real and complex part of the second number: (with space)9 5
(14+12j)
```

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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:

```python
prin=int(input("Enter the principal amount:"))
roi=float(input("Enter the rate of interest:"))
dur=int(input("Enter the duration(in years):"))
print(prin+dur*(prin*(roi)/100))
```

Sample Output:

```
Enter the principal amount:1000000
Enter the rate of interest:9
Enter the duration(in years):5
1450000.0
```
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