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: SANTWAN PATHAK

Class Roll No.: 158

University Roll No.: 10900122161

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Assignment No : 9

Problem Statement : Write a program to sort three numbers using if-elif-else.

Python Code :

```
print("Enter three numbers")
x = int(input("Enter First Number"))
y = int(input("Enter Second Number"))
z = int(input("Enter Third Number"))

if x>y:
    if y > z :
        print(x , y , z , sep='>')
    else :
        print(x , z , y , sep = '>')
else:
    if y > z :
        if z > x :
            print(y , z , x , sep = '>')
        else:
            print(y , x , z , sep='>')
    else :
        print(z , y , x, sep='>')
```

Sample Output :

```
Enter three numbers
Enter First Number 56
Enter Second Number 43
Enter Third Number 8
56>43>8
```

```
Enter three numbers
Enter First Number 80
Enter Second Number 278
Enter Third Number 85
278>85>80
```

Assignment No : 10

Problem Statement : Write a program to calculate simple interest with the following conditions:

- If the principal amount is less than 2,00,000 the interest rate is 10%.
- If the principal amount is 2,00,000 -10,00,000 the interest rate is 12%.
- If the principal amount is greater than 10,00,000 the interest rate is 15%.

Python Code :

```
def calculate_simple_interest(principal_amount):
    if principal_amount < 200000:
        interest_rate = 10
    elif principal_amount >= 200000 and principal_amount <= 1000000:
        interest_rate = 12
    else:
        interest_rate = 15

    interest = (principal_amount * interest_rate) / 100
    return interest

# Taking input from the user
principal = float(input("Enter the principal amount: "))

# Calculate and display the interest
interest_amount = calculate_simple_interest(principal)
print(f"Simple Interest: {interest_amount}")
```

Sample Output :

Enter the principal amount: 35000
Simple Interest: 3500.0
Enter the principal amount: 950070
Simple Interest: 114008.4

Assignment No : 11

Problem Statement : 11. Write a program to print the following patterns:
a) 1
2 , 3
4, 5, 6
7 , 8, 9, 10
11, 12, 13, 14, 15

b) * * * * * * * * *
* * * * * * *
* * * * *
* * *
*

Python Code : a)

```
num = 1
rows = int(input("Enter The Row No : "))

for i in range(1, rows + 1):
    for j in range(i):
        print(num, end=" ")
        num += 1
    print()
```

Sample Output :

Enter The Row No : 5
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15

Enter The Row No : 6
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
16 17 18 19 20 21

Python Code : b)

```
rows = int(input("Enter The Row No : "))

for i in range(1, rows + 1):
    print(" " * (i - 1) * 2, end="")
    print("* " * (rows - i + 1))
```

Assignment No : 12

Problem Statement : Write a program using a loop to print all the odd numbers within a given range.

Python Code :

```
n1 = int(input("Enter the Starting : "))
n2 = int(input("Enter The Last Range : "))

start , end = n1, n2
for num in range(start , end + 1 ) :
    if num %2 !=0 :
        print( num , end=" ")
```

Sample Output :

Enter the Starting : 5
Enter The Last Range : 30
5 7 9 11 13 15 17 19 21 23 25 27 29

Enter the Starting : 101
Enter The Last Range : 145
101 103 105 107 109 111 113 115 117 119 121 123 125 127 129 131 133 135 137 139 141 143 145

Assignment No : 13

Problem Statement : Write a program using a while loop to print all the odd numbers within a given range.

Python Code :

```
n1 = int(input("Enter a number : "))
n2= int(input("Enter a number : "))
rem = n1 % n2
while rem!=0 :
    n1 = n2
    n2 = rem
    rem = n1 % n2
print ( "GCD of Given Number is %d" % (n2))
```

Sample Output :
Enter a number : 45
Enter a number : 34
GCD of Given Number is 1

Assignment No : 14

Problem Statement : Write a program to print the decimal equivalents of 1/2, 1/3, 1/4,. ..... , 1/10 using for loop.

Python Code :

```
for i in range(1 , 11) :
    print( 1/i , end=", ")
```

Sample Output :

1.0, 0.5, 0.3333333333333333, 0.25, 0.2, 0.16666666666666666, 0.14285714285714285, 0.125, 0.1111111111111111, 0.1,