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**Roll No:-156**

**Assignment Name:- Extra Practice Programs.**

**Assignment No:-12**

**Extra Practice Programs.**

1. **Factorial Program:**

num = int (input("Enter a number:"))

factorial = 1

if num < 0:

print("The factorial does not exist a negative numbers")

elif num == 0:

print("The factorial of 0 is 1")

else:

for i in range (1,num+1):

factorial = factorial\*i

print("The factorial of",num,"is",factorial)

**Output:**

Enter a number : 5

The factorial of 5 is 120

1. **Fibonacci Program:**

def Fibonacci(n):

if n < 0:

print("Please enter correct input!!")

elif n == 0:

return 0

elif n == 1 or n == 2:

return 1

else:

return Fibonacci(n - 1)+ Fibonacci(n - 2)

n=int(input("Enter The Number: "))

print(Fibonacci(n))

**Output:**

Enter the Number: 8

21

1. **Odd Even Number:**

num = int(input("Enter a number: "))

if(num % 2) == 0:

print("{0} is Even number.".format(num))

else:

print("{0} is Odd number.".format(num))

**Output:**

Enter a number: 5

5 is Odd number.

1. **Prime Number:**

num = int (input("Enter a number:"))

if num > 1:

for i in range (2, int(num/2)+1):

if(num % i) == 0:

print(num,"is not a Prime Number.")

break

else:

print(num, "is a Prime Number.")

else:

print(num, "is not a prime number")

**Output:**

Enter the number7

7 is a prime

1. **Palindrome Number:**

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

temp = num

rev = 0

while(num>0):

dig = num % 10

rev = rev\* 10 + dig

num = num // 10

if(temp==rev):

print("The number is Palindrome!")

else:

print("Number is Not a Palindrome!!")

**Output:**

Enter a Number:333

The number is Palindrome!

1. **Palindrome String:**

def isPalindrome(s):

return s == s[::-1]

s = input("Enter a string: ")

ans=isPalindrome(s)

if ans:

print("The string is Palindrome")

else:

print("Tne string is not Palindrome")

**Output:**

Enter a string: rajjar

The string is Palindrome

1. **Armstrong Number:**

def is\_armstrong(num):

num\_str = str(num)

n = len(num\_str)

sum = 0

for digit in num\_str:

sum = sum+ int(digit)\*\*n

if sum == num:

return ("The number is Armstrong")

else:

return ("The number is not Armstrong")

num=int(input("Enter the number: "))

print(is\_armstrong(num))

**Output:**

Enter the number: 153

The number is Armstrong

1. **Odd Number Addition(1-N):**

max=int(input("Please enter the maxiumum number:"))

odd=0

for number in range(1,max+1,2):

print("{0}".format(number))

odd += number

print("The sum of Odd Numbers from 1 to {0} = {1}".format(max,odd))

**Output:**

Please enter the maxiumum number:25

1

3

5

7

9

11

13

15

17

19

21

23

25

The sum of Odd Numbers from 1 to 25 = 169

* 1. **Calculate the odd no. of addition 1-100:**

min=int(input("Please enter the minimum number: "))

max=int(input("Please enter the maximum number: "))

odd=0

for number in range(min,max+1):

if(number % 2!=0):

print("{0}".format(number))

odd += number

print("The sum of Odd Numbers from {0} to {1}={2}".format(min, max,odd))

**Output:**

Please enter the minimum number: 1

Please enter the maximum number: 15

1

3

5

7

9

11

13

15

The sum of Odd Numbers from 1 to 15=64

1. **Even Number Addition(1-N):**

max=int(input("Please enter the maximum number: "))

even=0

for number in range(1,max+1):

if(number % 2==0):

print("{0}".format(number))

even += number

print("The sum of Even Numbers from 1 to {0} = {1}".format(max,even))

**Output:**

Please enter the maximum number: 25

2

4

6

8

10

12

14

16

18

20

22

24

The sum of Even Numbers from 1 to 25 = 156

**9.1. Calculate the even number of Addition(1-100):**

min=int(input("Please enter the minimum number: "))

max=int(input("Please enter the maximum number: "))

even=0

for number in range(min,max+1):

if(number % 2==0):

print("{0}".format(number))

even += number

print("The sum of Even Numbers from {0} to {1} = {2}".format(min,max,even))

**Output:**

Please enter the minimum number: 1

Please enter the maximum number: 15

2

4

6

8

10

12

14

The sum of Even Numbers from 1 to 15 = 56

1. **Factorial Using Recursion:**

def factorial(n):

if (n == 1 or n == 0):

return 1

else:

return (n \* factorial(n - 1))

num = int(input("Enter the number: "))

print("number : ", num)

print("Factorial : ", factorial(num))

**OUTPUT:**

Enter the number: 5

number : 5

Factorial : 120