**PYTHON PROGRAMMING ASSIGNMENT:-6**

1. Write a python program to reverse a number using a while loop.

**Code:-**

#define function

def reverse\_number(num):

reversed\_num = 0

while num > 0:

digit = num % 10

reversed\_num = reversed\_num \* 10 + digit

num //= 10

return reversed\_num

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

reversed\_number = reverse\_number(number)

print("Reversed number:", reversed\_number)

**Output:-**

Enter a number: 8154

Reversed number: 4518

2.Write a python program to check whether a number is palindrome or not?

**Code:-**

#define function

def is\_palindrome(number):

# Convert the number to a string and check if it equals its reverse

return str(number) == str(number)[::-1]

# Input from the user

number = int(input("Enter a number to check if it's a palindrome: "))

# Check and display the result

if is\_palindrome(number):

print(f"{number} is a palindrome.")

else:

print(f"{number} is not a palindrome.")

**Output:-**

Enter a number to check if it's a palindrome: 121

121 is a palindrome.

1. Write a python program finding the factorial of a given number using a while loop.

**Code:-**

def factorial(n):

if n<0:

return 0

elif n==0 or n==1:

return 1

else:

return n\*factorial(n-1)

n=int(input("Enter the last number:"))

print("factorial is:", factorial(n))

**Output:-**

Enter the last number:10

factorial is: 3628800

1. Accept numbers using input() function until the user enters 0. If user input 0 then break the while loop and display the sum of all the numbers.

**Code:-**

sum = 0

while True:

num = int(input("Enter a number (0 to stop): "))

if num == 0:

break

sum += num

print("Sum of the numbers:", sum)

**Output:-**

Enter a number (0 to stop): 20

Enter a number (0 to stop): 45

Enter a number (0 to stop): 0

Sum of the numbers: 65

Top of Form

Bottom of Form5. Program to check whether the given number is Armstrong or not.

**Code:-**

def is\_armstrong(num):

original\_num = num

num\_digits = len(str(num))

sum = 0

while num > 0:

digit = num % 10

sum += digit \*\* num\_digits

num //= 10

return original\_num == sum

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

if is\_armstrong(number):

print(number, "is an Armstrong number.")

else:

print(number, "is not an Armstrong number.")

**Output:-**

Enter a number: 153

153 is an Armstrong number**.**