

Assignment-6

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

Ans -# Input from the user

```
num=int(input("Enter the Number : "))
reversed_num = 0
while num > 0:
    digit = num % 10 # Get the last digit
    reversed_num = reversed_num * 10 + digit # Append digit to reversed number
    num = num//10 # Remove the last digit
print("Reversed Number : ",reversed_num)
```

OUTPUT

Enter the Number : 123

Reversed Number : 321

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

Input from the user

```
Ans- number = int(input("Enter the number: "))
temp = number
reverse =0
while (number > 0):
    dig = number % 10 # Get the last digit
    reverse = reverse * 10 + dig # Append digit to reversed number
    number = number // 10 # Remove the last digit
print("The reverse number is: ", reverse)
if temp==reverse:
    print("The number is a palindrome")
```

else:

```
print("The number is not a palindrome")
```

OUTPUT

```
Enter the number: 1221
```

```
The reverse number is: 1221
```

```
The number is a palindrome
```

```
Enter the number: 1325
```

```
The reverse number is: 5231
```

```
The number is not a palindrome
```

3. Write a python program finding the factorial of a given number using a whileloop.

```
# Function to calculate factorial using a while loop
```

```
def factorial(num):
```

```
    if num < 0:
```

```
        return None # Factorial is not defined for negative numbers
```

```
    result = 1
```

```
    while num > 0:
```

```
        result *= num
```

```
        num -= 1
```

```
    return result
```

```
# Input from the user
```

```
number = int(input("Enter a number to find its factorial: "))
```

```
if number < 0:
```

```
    print("Factorial is not defined for negative numbers.")
else:
    fact = factorial(number)
    print(f"The factorial of {number} is: {fact}")
```

OUTPUT- Enter a number to find its factorial: 6

The factorial of 6 is: 720

Enter a number to find its factorial: -4

Factorial is not defined for negative numbers.

4. 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.

```
# Initialize variables
total_sum = 0
print("Enter numbers to add to the sum. Enter 0 to stop.")
while True:
    num = int(input("Enter a number: "))
    if num == 0:      # Break the loop if the input is 0
        break
    total_sum += num  # Add the number to the total sum
print(f"The sum of all the entered numbers is: {total_sum}")
```

OUTPUT

Enter numbers to add to the sum. Enter 0 to stop.

Enter a number: 2

Enter a number: 3

Enter a number: 1

Enter a number: 0

The sum of all the entered numbers is: 6