In [1]:
```python
#Write a python program to reverse a number using a while loop.

# Input string
input_string = "Hello, World!"

# Initialize an empty string to store the reversed string
reversed_string = ""

# Initialize the index to point to the last character of the input string
index = len(input_string) - 1

# Use a while loop to iterate over the input string in reverse order
while index >= 0:
    # Add the current character to the reversed_string
    reversed_string += input_string[index]

    # Decrement the index
    index -= 1

# Output the reversed string
print("Reversed string:", reversed_string)
```

```
Reversed string: !dlroW ,olleH
```

In [3]:
```python
#2. Write a python program to check whether a number is palindrome or not?

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

# Store the original number
original_num = num

# Initialize a variable to store the reversed number
reversed_num = 0

# Use a while loop to reverse the digits of the number
while num > 0:
    # Get the last digit of the number
    digit = num % 10

    # Append the digit to the reversed_num
    reversed_num = (reversed_num * 10) + digit

    # Remove the last digit from num
    num //= 10

# Check if the original number and the reversed number are the same
if original_num == reversed_num:
    print(f"{original_num} is a palindrome.")
else:
    print(f"{original_num} is not a palindrome.")
```

```
Enter a number: 25
25 is not a palindrome.
```

In [4]:
```python
#3 Write a python program finding the factorial of a given number using a w
# Input number
num = int(input("Enter a number: "))

# Initialize the factorial result to 1
factorial = 1

# Use a while loop to calculate the factorial
while num > 0:
    # Multiply the current number with factorial
    factorial *= num

    # Decrement the number
    num -= 1

# Output the factorial result
print("Factorial:", factorial)
```

```
Enter a number: 25
Factorial: 15511210043330985984000000
```

In [2]:
```python
#Accept numbers using input() function until the user enters 0. If user inp

# Initialize the sum to 0
total_sum = 0

while True:
    # Accept a number from the user
    num = int(input("Enter a number (enter 0 to stop): "))

    # Check if the number is 0
    if num == 0:
        break

    # Add the number to the total sum
    total_sum += num

# Output the total sum of the numbers
print("The sum of all the numbers is:", total_sum)
```

```
Enter a number (enter 0 to stop): 5
Enter a number (enter 0 to stop): 5
Enter a number (enter 0 to stop): 5
Enter a number (enter 0 to stop): 0
The sum of all the numbers is: 15
```

In [1]:
```python
# Question: Print the reverse order series using a while loop.

# Taking the starting number of the series from the user
n = int(input("Enter the starting number of the series: "))

# Printing the reverse order series using a while loop
while n > 0:
    print(n)
    n -= 1
```

```
Enter the starting number of the series: 5
5
4
3
2
1
```

In [2]:
```python
# Question: Create a code that describes the use of the break statement in

# Initializing a counter
counter = 1

# Using a while loop
while True:
    print(f"Counter: {counter}")
    if counter == 5:  # When the counter reaches 5, break the loop
        print("Breaking the loop when counter reaches 5.")
        break
    counter += 1  # Increment the counter
```

```
Counter: 1
Counter: 2
Counter: 3
Counter: 4
Counter: 5
Breaking the loop when counter reaches 5.
```

In [3]:
```python
# Question : Write a Python program using a while loop to iterate through e
# and print each character on a new line. Additionally, calculate and print

# Defining the string
string = "Python"
index = 0
length = 0

# Using a while loop to iterate through the string
while index < len(string):
    print(string[index])  # Print each character on a new line
    index += 1
    length += 1  # Keep track of the string's length

# Print the length of the string
print(f"The length of the string is {length}.")
```

```
P
y
t
h
o
n
The length of the string is 6.
```

In [4]:
```python
# Question : Write a Python program that takes an integer input from the us
# and calculates its factorial using a while loop. Display the result as th

# Taking an integer input from the user
number = int(input("Enter a number to find its factorial: "))

# Initializing variables
factorial = 1
i = 1

# Using a while loop to calculate factorial
while i <= number:
    factorial *= i  # Multiply factorial by the current value of i
    i += 1  # Increment i

# Displaying the factorial result
print(f"The factorial of {number} is {factorial}.")
```

```
Enter a number to find its factorial: 5
The factorial of 5 is 120.
```