In [3]:
```python
# Question 1: Code Along

# Function to reverse the string and count vowels
def reverse_and_count_vowels(input_string):
    vowels = "aeiouAEIOU"  # List of vowels
    reversed_string = input_string[::-1]  # Reverse the string
    vowel_count = 0

    # Loop through the string and count vowels
    for char in input_string:
        if char in vowels:
            vowel_count += 1

    return reversed_string, vowel_count

# Input from the user
input_string = input("Enter a string: ")

# Get the reversed string and number of vowels
reversed_string, vowel_count = reverse_and_count_vowels(input_string)

# Output the results
print("Reversed string:", reversed_string)
print("Number of vowels:", vowel_count)
```

```
Reversed string: ?ris uoy era woh
Number of vowels: 6
```

In [6]:
```python
# Question 2: Hands-on Coding Project

# Function to check if a number is even or odd
def check_even_odd(number):
    if number % 2 == 0:
        return f'The number {number} is Even.'
    else:
        return f'The number {number} is Odd.'

# Input from the user
number = int(input('Enter a number: '))

# Check and display the result
print(check_even_odd(number))
```

```
The number 26 is Even.
```

In [12]:
```python
# Question 3: Virtual Environment Application

# Function to simulate creating a virtual environment
def simulate_virtual_environment():
    print("Step 1: Create a virtual environment named 'sortenv'.")
    print("Step 2: Install numpy in the virtual environment.")
    print("Step 3: Use numpy to sort the list.")

# Function to sort the list using numpy
try:
    import numpy as np

    def sort_list(input_list):
        # Use numpy's sort method to sort the list
```

```
        return np.sort(input_list)

except ImportError:
    print("Numpy is not installed in the current environment.")

# Input from the user
input_list = input("Enter a list of numbers (separated by spaces): ").split()

# Convert input to a list of integers
input_list = [int(num) for num in input_list]

# Simulate virtual environment steps
simulate_virtual_environment()

# Sort the list using numpy
try:
    sorted_list = sort_list(input_list)
    print("Sorted list:", sorted_list)
except NameError:
    print("Numpy was not imported successfully, so sorting cannot be performed.")
```

```
Step 1: Create a virtual environment named 'sortenv'.
Step 2: Install numpy in the virtual environment.
Step 3: Use numpy to sort the list.
Sorted list: [1 2 3 4 5 6]
```