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Course Name : Python Programming

Assignment No.1

Problem: Write a Python program that takes a string as input and prints out the following:

1. The string in reverse order.
2. The number of vowels in the string.

Solution:

```
 # variable to store string.
original_string = input("Enter a string: ")
print("Original string: ", original_string)
reversed_string = original_string[::-1]
print("Reversed string: ", reversed_string)


vowels = {'a','e','i','o','u'}  # set of vowels
vowel_count = 0                 # variable to store count of vowels
# loop to count vowels in string
for char in original_string:
    if char.lower() in vowels:  # check if character is vowel
        vowel_count += 1
print("Number of vowels: ", vowel_count)


Original string:  Hello World
Reversed string:  dlroW olleH
Number of vowels:  3
```

Question 2: Hands-on Coding Project

Problem: Create a Python program that:

1. Takes an input number from the user.
2. Checks whether the number is even or odd.
3. Prints the result.

```
# variable to store a number.
number = int(input("Enter a number: "))
# check if number is even or odd.
if number % 2 == 0:
    print(f"The number {number} is even.")
else:
```

```
    print(f"The number {number} is odd.")
```

```
The number 5 is odd.
```

Question 3: Virtual Environment Application

Problem: Create a Python program that:

1. Takes a list of integers as input.
2. Creates a new virtual environment called sortenv.
3. Installs a package (such as numpy) in the virtual environment.
4. Sorts the list using a numpy method (numpy.sort()).
5. Prints the sorted list.

```
import numpy as np # import numpy module
# list of numbers
original_list = input("Enter a list of numbers : ")
original_list = original_list.split() # split the numbers to create a
list
print("Original list: ", original_list)  # print the original list

# sort the list using numpy.sort() function
sorted_list = np.sort(original_list)
print("Sorted list: ", sorted_list)
```

```
Original list:  ['4', '2', '7', '1', '3']
Sorted list:  ['1' '2' '3' '4' '7']
```