Python Programming Assignment 01

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Question No 01:

Write a Python program that takes a string input from the user, reverses it, and also counts the number of vowels (a, e, i, o, u) in the original string.

Solution:

```
user_input = input("Please enter a string: ")

# Reverse string
reversed_string = user_input[::-1]

# Count vowels using sum()
vowels = "aeiouAEIOU"
vowel_count = sum(1 for char in user_input if char in vowels)

print(f"The Reversed string is: {reversed_string}")
print(f"Number of vowels: {vowel_count}")
```

Output:

```
PS C:\Users\Rashid Abbas\python programing\Python programming> & "C:/Users/Rashid Abbas/miniconda3/python.exe" "c:/Users/Rashid Abbas/pytho
n programing/Python programming/first program.py"
please enter a string:  I love pakistan
The Reversed string is: natsikap evol I
numbers of vowel : 6
PS C:\Users\Rashid Abbas\python programing\Python programming>
```

Question No 02:

Write a Python program that checks whether a given number is even or odd.

Solution:

```python
# Function definition
def find_even_or_odd(n):
    if n % 2 == 0:
        return "Even"
    else:
        return "Odd"

# Take input from user
value = int(input("Enter any number: "))

# Function call
answer = find_even_or_odd(value)

# Show result
print(f"The number is {answer}.")
```

Output:

```
> & "C:/Users/Rashid Abbas/miniconda3/python.exe" "c:/Users/Rashid Abbas/python programing/Python programming/first program.py"
Enter any number: 11
The number is Odd.
PS C:\Users\Rashid Abbas\python programing\Python programming>
```

Question No 03:

Write a Python program using NumPy to sort the list.

Solution:

```
# import numpy library
import numpy as np

# define a sample list
values = [12, 5, 8, 1, 45, 23]

# convert list to numpy array
arr = np.array(values)

# sort the array using numpy
sorted_arr = np.sort(arr)

# display original and sorted list
print("Original list:", values)
print("Sorted list:", sorted_arr)
```

Output:

```
                    > & "C:/Users/Rashid Abbas/AppData/Local/Microsoft/WindowsApps/python3.11.exe" "d:/Python programming/firstprogram
py"
riginal list: [12, 5, 8, 1, 45, 23]
orted list: [ 1  5  8 12 23 45]
S D:\Python programming>
```