

Problem_1 (Count_Vowels)

```
In [ ]: my_string=input("Enter string: ")
vowel_counts=0
my_string=my_string.lower()
for ch in my_string:
    if ch=='a'or ch=='e'or ch=='i'or ch=='o'or ch=='u':
        vowel_counts+=1

print(vowel_counts)
```

```
In [ ]: my_string = input("Enter string: ")
vowel_counts = 0

for ch in my_string:
    if ch in "aeiouAEIOU": # Using 'in' is more Pythonic
        vowel_counts += 1

print(vowel_counts)
```

Problem_2 (Generate Array)

```
In [ ]: def generate_array():
    length = int(input("Enter the length of the array: "))
    start = int(input("Enter the starting number: "))

    arr = [start + i for i in range(length)]
    print("Generated Array:", arr)

# Call the function
generate_array()
```

Problem_3 (Descending and Ascending orders)

```
In [ ]: def sort_array():
    arr = [] # Initialize an empty list

    # Taking 5 inputs from the user
    for i in range(5):
        num = int(input(f"Enter element {i+1}: "))
        arr.append(num)

    # Sorting in ascending and descending order
    ascending = sorted(arr)
    descending = sorted(arr, reverse=True)

    # Display results
    print("Ascending Order:", ascending)
    print("Descending Order:", descending)

# Call the function
sort_array()
```

Problem_4 (FizzBuzz)

```
In [ ]: def FizzBuzz(number):
    if (number %3==0 and number%5==0):
        print("FizzBuzz")
```

```

    elif number%3==0:
        print("Fizz")
    elif number%5==0:
        print("Buzz")

```

```
FizzBuzz(15)
```

Problem_5 (reverse a string)

```
In [ ]: my_string="ali"
        print(''.join(reversed(my_string)))
```

```
In [ ]: def reverse_string(s):
        reversed_str = ""
        for char in s:
            reversed_str = char + reversed_str
        return reversed_str

        print(reverse_string("hello"))
```

Problem_6 (Area and Circumference of Circle)

```
In [ ]: import math

        def circle_calculations():
            radius = float(input("Enter the radius of the circle: "))

            area = math.pi * radius ** 2
            circumference = 2 * math.pi * radius

            print(f"Area: {area:.2f}")
            print(f"Circumference: {circumference:.2f}")

        # Call the function
        circle_calculations()
```

Problem_7 (Count subString)

```
In [ ]: def count_subString_occurrences():
        user_string = input("Enter a string: ").lower()
        count = user_string.count("iti")

        print(f"The substring 'iti' occurs {count} times.")

        count_subString_occurrences()
```

Problem_8 (Longest alphabetical ordered substring)

```
In [ ]: def longest_ordered_substring(s):
        longest = temp = s[0]

        for i in range(1, len(s)):
            if s[i] >= s[i - 1]:
                temp += s[i]
            else:
                temp = s[i]

            if len(temp) > len(longest):
                longest = temp
```

```
print(f"Longest substring in alphabetical order is: {longest}")  
  
string = input("Enter a string: ")  
longest_ordered_substring(string)
```