1. String & Pattern Problems

1. Reverse a given string without using built-in reverse functions.
2. Check if a string is a palindrome.
3. Count the number of vowels and consonants in a string.
4. Remove all spaces from a given string.
5. Count the frequency of each character in a string.

1.Reverse a given string without using built-in reverse functions.

Program & Output:-

```
1   str=input('Valid string: ')
2   print("Reverse string: %s" %str[::-1])
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
PS C:\Users\alimo> & C:/Users/alimo/AppData/Local/Programs/Python/Python313/python.exe "
Valid string: project
Reverse string: tcejorp
PS C:\Users\alimo>
```

2.Check if a string is a Palindrome.

Program & Output:-

```
1   str=input('String: ')
2   temp=str
3   if temp[::-1]==str:
4       print("Palindrome")
5   else:
6       print("Not a Palindrome")
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
PS C:\Users\alimo> & C:/Users/alimo/AppData/Local/Programs/Python/Python313/python.exe "c:
Valid string: project
Reverse string: tcejorp
PS C:\Users\alimo> & C:/Users/alimo/AppData/Local/Programs/Python/Python313/python.exe "c:
String: MALAYALAM
Palindrome
PS C:\Users\alimo>
```

3.Count the number of vowels and consonants in a String.

Program & Output:-

```
1    str=input('String: ')
2    vv_count=0
3    cc_count=0
4    for i in str:
5        if i in ("AEIOUaeiou"):
6            vv_count+=1
7    print(vv_count)
8    for i in str:
9        if i not in ("AEIOUaeiou"):
10           cc_count+=1
11   print(cc_count)
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
PS C:\Users\alimo> & C:/Users/alimo/AppData/Local/Programs/Python/Python313/python.exe "c
String: EXPLOERER
4
5
PS C:\Users\alimo> █
```

4. Remove all spaces from a given string.

Program & Output:-

```
1    str=input('String: ')
2    with_out_space=""
3    for i in str:
4        if i !=" ":
5            with_out_space+=i
6    print(with_out_space)
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
PS C:\Users\alimo> & C:/Users/alimo/AppData/Local/Programs/Python/Python313/python.ex
String: Python Is Love
PythonIsLove
PS C:\Users\alimo> █
```

5.Count the frequency of each char in a string.

Program & Output:-

```
1   str=input('String: ')
2   freq={}
3   for i in str:
4       if i in freq:
5           freq[i]+=1
6       else:
7           freq[i]=1
8   print("char freq:")
9   for key in freq:
10      print(f"{key}:{freq,{key}}")
11
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

PS C:\Users\alimo> & C:/Users/alimo/AppData/Local/Programs/Python/Python313/python.exe
String: character
char freq:
c:({'c': 2, 'h': 1, 'a': 2, 'r': 2, 't': 1, 'e': 1}, {'c'})
h:({'c': 2, 'h': 1, 'a': 2, 'r': 2, 't': 1, 'e': 1}, {'h'})
a:({'c': 2, 'h': 1, 'a': 2, 'r': 2, 't': 1, 'e': 1}, {'a'})
r:({'c': 2, 'h': 1, 'a': 2, 'r': 2, 't': 1, 'e': 1}, {'r'})
t:({'c': 2, 'h': 1, 'a': 2, 'r': 2, 't': 1, 'e': 1}, {'t'})
e:({'c': 2, 'h': 1, 'a': 2, 'r': 2, 't': 1, 'e': 1}, {'e'})
PS C:\Users\alimo>