```python
#1. Python program to access each element of a string in forward and reverse orders using while loop.

string = input('Please enter a string')
count = len(string)
r_s = ""
while(count >0):
    r_s += string[count - 1]
    count -= 1
print("Reverse string: ",r_s)

num = 0
count = (len(string))
f_s = ""
while(num < count):
    f_s += string[num]
    num += 1
print("Forward string: ",f_s)
```

Output:

Please enter a stringnavrachana

Reverse string: anahcarvan

Forward string: navrachana

Process finished with exit code 0

```python
#2. Python program to access the characters of a string using for loop.

string = input('Please enter a string')
f_s=""
i=0
for i in range(0,len(string)):
    f_s += string[i]
    i += 1

print(f_s)
```

Output:

Please enter a stringnavrachana

navrachana

Process finished with exit code 0

```python
#3. Python program to check if a string is palindrome or not.

string = input('Please enter a string: ')

if string == string[::-1]:
    print('The entered string is a palindrome string.')
else:
    print('The entered string is not a palindrome string.')
```

Output:

Please enter a string: mom

The entered string is a palindrome string.

Process finished with exit code 0

```
#4. Python Program to Count the Number of Vowels in a String.

string = input('Please enter a string: ')
count = 0
for i in string:
    if (i == 'a' or i == 'e' or i == 'i' or i == 'o' or i == 'u'):
        count += 1
    else:
        count += 0
if count > 0:
    print('There are',count,'vowels in the string.')
else:
    print('There are no vowels in the string.')
```

Output:

Please enter a string: navrachana

There are 4 vowels in the string.

Process finished with exit code 0

```
#5. Python Program to Calculate the Length of a String Without Using a
Library Function.
```

```
string = input("Please enter a string:")
count = 0
for i in string:
      count = count + 1
print("Length of the string is: ",count)
```

Output:

Please enter a string:navrachana

Length of the string is: 10

Process finished with exit code 0

```
#6. Python Program to Calculate the Number of Words and the Number of
Characters Present in a String.
```

```
string = input("Please enter a string:")
char = 0
word = 1
for i in string:
      char = char + 1
      if (i==' '):
            word = word+1
print("Number of words in the string: ",word)
print("Number of characters in the string: ",char)
```

Output:

Please enter a string:I study at Navrachana University

Number of words in the string: 5

Number of characters in the string: 32

Process finished with exit code 0

```
#7. Reverse words in a given String in Python.

sentence = input('Please enter a string: ')
```

```
words = sentence.split(' ')

reverse_sentence = ' '.join(reversed(words))


print(reverse_sentence)
```

Output:

Please enter a string: I study at navrachana university

university navrachana at study I

Process finished with exit code 0

```
#8. Python program to check whether the string is Symmetrical or Palindrome.

def check_palindrome(my_str):
   mid_val = (len(my_str)-1)//2
   start = 0
```

```
    end = len(my_str)-1
    flag = 0
    while(start<mid_val):
         if (my_str[start]== my_str[end]):
             start += 1
             end -= 1
         else:
             flag = 1
             break;
    if flag == 0:
         print("The entered string is palindrome")
    else:
         print("The entered string is not palindrome")
def check_symmetry(my_str):
    n = len(my_str)
    flag = 0
    if n%2:
       mid_val = n//2 +1
    else:
       mid_val = n//2
    start_1 = 0
    start_2 = mid_val
    while(start_1 < mid_val and start_2 < n):
       if (my_str[start_1]== my_str[start_2]):
          start_1 = start_1 + 1
          start_2 = start_2 + 1
       else:
          flag = 1
          break
    if flag == 0:
       print("The entered string is symmetrical")
    else:
       print("The entered string is not symmetrical")
my_string = input('Please enter a string: ')
print("")
print("The method to check a palindrome is being called...")
check_palindrome(my_string)
print("")
print("The method to check symmetry is being called...")
check_symmetry(my_string)
```

Output:

Please enter a string: mom

The method to check a palindrome is being called...

The entered string is palindrome

The method to check symmetry is being called...

The entered string is symmetrical

Process finished with exit code 0

```
#9. Python Program to Form a New String where the First Character and the
Last Character have been Exchanged (Using Slicing).

string = input('Please enter a string: ')

print('')

print('Original String: ',string)
```

```
start = string[0]

end = string[-1]

swapped_string = end + string[1:-1] + start

print('')

print('Altered string: ',swapped_string)
```

Output:

Please enter a string: navrachana

Original String: navrachana

Altered string: aavrachann

Process finished with exit code 0