Practical-3: Iterative Statements and Strings

1) Write a program to check if number is Armstrong.
Code:
```
n=int(input('Enter Number For Checking Armstrong or Not:-'))
temp=n
sum=0
while(n > 0):
  t=n%10
  sum+=(t**3)
  n=int(n/10)
if(sum==temp):
  print(f"{temp} is a Armstrong Number")
else:
  print(f"{temp} is Not a Armstrong Number")
```

Output:
```
Enter Number For Checking Armstrong or Not:-153
153 is a Armstrong Number
```

2) Write a program to check special number. (Number is equal to the sum of its divisors)
Code:
```
n=int(input('Enter Number For Checking Specical or Not:-'))
sum=0
for i in range (1,6):
        if(n%i==0):
                sum+=i
        if(sum==n):
                print(f"{n} is a Specical Number")
        else:
                print(f"{n} is Not a Specical Number")
```

Output:
```
Enter Number For Checking Specical or Not:-6
6 is a Specical Number
```

3) Write Create a program that will print out words that start with 's' from the below given statement.
st='Print only the words that start with s in this sentence'

Using If Statement:-
   Code:
```
st="Print only the words that start with s in this sentence"

for i in st.split():
        if(i[0]=='s' or i[0]=='S'):
                print(i)
```

Output:

```
start
s
sentence
```

Using (i.Startswith):-
Code:-

```
st="Print only the words that start with s in this sentence"

for i in st.split():

        if(i.startswith('s')):

        print(i)
```

Output:-

```
start
s
sentence
```

4) Write a program to give output of entered number multiplication table.
Code:

```
n=int(input('Enter Number For Multiplication Table:-'))

for i in range (1,11):
        temp = n * i
        print(f"{n} X {i} = {temp}")
```

Output:

```
Enter Number For Multiplication Table:-9
9 X 1 = 9
9 X 2 = 18
9 X 3 = 27
9 X 4 = 36
9 X 5 = 45
9 X 6 = 54
9 X 7 = 63
9 X 8 = 72
9 X 9 = 81
9 X 10 = 90
```

5) Write a program to find the sum of digit of an input number using while loop.
Code:

```
n=int(input('How many Number You Want to Enter:-'))

sum=0
while(n > 0):
        t=n%10
        sum+=t
        n=int(n/10)
print(f"Sum is {sum}")
```

Output:

```
How many Number You Want to Enter:-54
9 is a Armstrong Number
```

6) Go to String below and if the length of a word is even print "even!".
st='I love doing python programming in spyder'

Using st Statement:-
Code:
```
st='I love doing python programming in spyder'

if(len(st) % 2 == 0):
  print("String is Even")
else:
  print("String is Odd")
```

Output:
```
String is Odd
```

Using st.split() Statement:-
Code:
```
st='I love doing python programming in spyder'

if(len(st.split()) % 2 == 0):
  print("String is Even")
else:
  print("String is Odd")
```

Output:
```
String is Odd
```

Using [for loop + st.split()] Statement:-
Code:
```
st='I love doing python programming in spyder'

for i in st.split():
  if(len(i) % 2 == 0):
    print(f"'{i}' is Even")
    else:
    print(f"'{i}' is Odd")
```
Output:
```
'I' is Odd
'love' is Even
'doing' is Odd
'python' is Even
'programming' is Odd
'in' is Even
'spyder' is Even
```

7) Write a program to calculate frequency of digit, upper case character and lower case character from the string.

Code:
```
st=input("enter string: ")

dc,uc,lc,sc=0,0,0,0
for i in st:
  if(i>='a' and i<='z'):
    lc+=1
  elif(i>='A' and i<='Z'):
    uc+=1
  elif(i>='0' and i<='9'):
    dc+=1
  else:
    sc+=1
print(f"digits = {dc},\nLower case = {lc},\nUpper case = {uc},\nSpecial Character = {sc}")
```

Output:
```
enter string: ZeelPatel@21012021099
digits = 11,
Lower case = 7,
Upper case = 2,
Specical Character = 1
```

8) Write a python program to check if a string is a palindrome or not.

Using [::-1] :-

Code:
```
a="zeel"
a1=a[::-1]
if(a==a1):
  print(f"'{a}' is Palindrome")
else:
  print(f"'{a}' is Not Palindrome")
```

Output:
```
'zeel' is Not Palindrome
```

Using Strrev() :-

Code:
```
a="zeel"
rev = ""
for i in a:
  rev = i + rev
if(a==rev):
  print(f"'{a}' is Palindrome")
else:
  print(f"'{a}' is Not Palindrome")
```

Output:

```
'zeel' is Not Palindrome
```

Using for loop :-

Code:
```
string = "zeez"
palindrome = True
for i in range(len(string)):
    if string[i] != string[-i-1]:
        is_palindrome = False
        break
if palindrome:
    print(f"{string} is a palindrome.")
else:
    print(f"{string} is not a palindrome.")
```

Output:

```
zeez is a palindrome.
```

9) Write a python program to remove i'th character from string.
Code:
```
st=input("enter string: ")

n=int(input('Enter Number of Which Element is Remove:- '))
print("After Removed I'th Element String :- ")
for i in range(len(st)):
  if(i==n-1):
    continue
  else:
    print(st[i])
```

Output:

```
enter string: zeel patel 21012021099
Enter Number of Which Element is Remove:- 3
After Removed I'th Element String :-
z
e
l

p
a
t
e
l

2
1
0
1
2
0
2
1
0
9
9
```

10) Write a python program to check if the substring is present in a given string.
Code:

```
string = input("Enter a string: ")

substring = input("Enter a substring to search for: ")

# Use the "in" operator to check if the substring is present in the string
if substring in string:
    print(f"{substring} is present in string.")
else:
    print(f"{substring} is not present in string.")
```

Output:

```
Enter a string: zeel patel - 21012021099
Enter a substring to search for: zeel
zeel is present in string.
```