

S.No: 17

Exp. Name: **Write a python script to arrange the given list of elements in ascending or descending order.**

Date:2024-05-09

Aim:

Write a python script to arrange the given list of elements in ascending or descending order.

Source Code:

order.py

```
n=input("Enter list of numbers: ")
li=n.split(" ")
for i in range(len(li)):
    li[i]=int(li[i])
l1=sorted(li)
print(l1)
l2=sorted(l1,reverse=True)
print(l2)
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

Enter list of numbers: 2 5 8 96 3 1 4 7

[1, 2, 3, 4, 5, 7, 8, 96]

[96, 8, 7, 5, 4, 3, 2, 1]

Test Case - 2

User Output

Enter list of numbers: 25 63 47 85 41 69

[25, 41, 47, 63, 69, 85]

[85, 69, 63, 47, 41, 25]

S.No: 9

Exp. Name: **Write a python script to display Fibonacci sequence of numbers using while loop constructs.**

Date:2024-05-09

Aim:

Write a python script to display Fibonacci sequence of numbers using while loop constructs.

Source Code:**fibonacci_while.py**

```
first = 0
second = 1
print("Fibonacci Sequence")
num = int(input("Enter length of series :"))
print("Fibonacci Sequence using while loop")
print("{}\n{}".format(first,second))
i=0
while i < num - 2:
    third = first + second
    print(third)
    first = second
    second = third
    i+=1
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

Fibonacci Sequence 5

Enter length of series : 5

Fibonacci Sequence using while loop

0

1

1

2

3

S.No: 20

Exp. Name: ***Write a Python program to convert temperatures to and from Celsius, Fahrenheit.***

Date:2024-05-09

Aim:

Write a Python program to convert temperatures to and from Celsius, Fahrenheit.

Source Code:

```
temperature.py
```

```
temp=input("Enter the temperature in celsius or fahrenheit: ")
deg=temp[-1]
num=int(temp[0:3])
if deg.lower()=='c':
    f=int(round((num*9)/5+32))
    print("The temperature in Fahrenheit is {0} degrees".format(f))
else:
    c=int(round((num-32)*(5/9)))
    print("The temperature in Celsius is {0} degrees".format(c))
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

Enter the temperature in celsius or fahrenheit: 215c

The temperature in Fahrenheit is 419 degrees

Test Case - 2

User Output

Enter the temperature in celsius or fahrenheit: 105F

The temperature in Celsius is 41 degrees

S.No: 8

Exp. Name: ***Write a python script to remove all the occurrences of a given character from a text file; copy the resultant text into another text file. Find the total occurrences of the eliminated characters and display the count along with the contents of the text file on to the console.***

Date:2024-05-09

Aim:

Write a python script to remove all the occurrences of a given character from a text file; copy the resultant text into another text file. Find the total occurrences of the eliminated characters and display the count along with the contents of the text file on to the console.

Source Code:

occurrences.py

```
f1=open("textfile.txt",'w')
f1.write("Write a python script to remove all the occurrences of a given character from a text file; copy the resultant text into another text file. Find the total occurrences of the eliminated characters and display the count along with the contents of the text file on to the console.")
f1.close()
f2=open("textfile.txt",'r')
print("**** TEXT IN A FILE ****")
print(f2.read())
f2.seek(0)
f3=open("textfile2.txt","w")
char = input("Enter a character to count its occurrence:")
count=0
rc=-1
while(rc):
    rc=f2.read(1)
    if rc==char:
        count +=1
    else:
        f3.write(rc)
f2.close()
f3.close()
print("Total count of " + char + " is ", count)
f4=open("textfile2.txt",'r')
print("**** Text after eliminating "+char+" ****")
print(f4.read())
f4.close()
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

**** TEXT IN A FILE **** e

Write a python script to remove all the occurrences of a given character from a tex

Enter a character to count its occurrence: e

Total count of e is 31

**** Text after eliminating e ****

Writ a python script to rmov all th occurrnecs of a givn charactr from a txt fil; co

Test Case - 2

User Output

**** TEXT IN A FILE **** i

Write a python script to remove all the occurrences of a given character from a tex

Enter a character to count its occurrence: i

Total count of i is 12

**** Text after eliminating i ****

Wrte a python scrpt to remove all the occurrences of a gven character from a text f

Aim:

Write a python script to find GCD of two numbers using recursive.

Source Code:**gcd.py**

```
import math
first_num=int(input("Enter first number:"))
second_num=int(input("Enter second number:"))
g=math.gcd(first_num,second_num)
print(f"GCD is: {g}")
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

Enter first number: 12

Enter second number: 6

GCD is: 6

S.No: 7

Exp. Name: **Write a python script to create a simple text file, write the contents into the created file and display the same on to the console screen.**

Date:2024-05-09

Aim:

Write a python script to create a simple text file, write the contents into the created file and display the same on to the console screen.

Source Code:

text_display.py

```
f=input("Enter file name: ")
f1=open(f,'r')
print(f1.read())
f1.close
f2=open(f,'a')
f2.write("Stay Home Stay Safe")
f2=open(f,'r')
print(f2.read())
f2.close()
```

MyFile.txt

Hello Every one!

MyFile2.txt

content of file after reading -

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

Enter file name: MyFile.txt

Hello Every one!

Hello Every one! Stay Home Stay Safe

S.No: 16

Exp. Name: **Write a program to find a given element, if the element to be found and its next element are the same then return True as output, otherwise return False.**

Date:2024-05-12

Aim:

Write a program to find the given element in a list. If the element to be found and its next element are the same, then return **True**, otherwise return **False**.

Sample Input and Output - 1:

```
list1: 32,36,36,5
num: 36
True
```

Sample Input and Output - 2:

```
list1: 33,34,35
num: 34
False
```

Source Code:

List15.py

```
#write your code here
data=input("data: ")
l1=data.split(",")
l1=map(int,l1)
l1=list(l1)
print("list:",l1)
num=int(input("num: "))
ind=l1.index(num)
if(l1[ind]==l1[ind+1]):
    print("True")
else:
    print("False")
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

```
data: 10,20,30
list: [10, 20, 30] 20
num: 20
False
```

Test Case - 2**User Output**

```
data: 10,20,20,30
list: [10, 20, 20, 30] 20
num: 20
True
```

Aim:

Write a Python program to find the GCD of two numbers.

Source Code:

```
gcdOfTwoNumbers.py
```

```
f=int(input("Enter first number: "))
s=int(input("Enter second number: "))
def gcd(a,b):
    if(b==0):
        return a
    else:
        return gcd(b,a%b)
print("The gcd of two numbers is:",gcd(f,s))
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

```
Enter first number: 10
Enter second number: 20
The gcd of two numbers is: 10
```

Test Case - 2**User Output**

```
Enter first number: 78
Enter second number: 9
The gcd of two numbers is: 3
```

S.No: 6

Exp. Name: ***Write a python script to find the largest number among three numbers and display them in ascending order using if-else construct.***

Date:2024-05-09

Aim:

Write a python script to find the largest number among three numbers and display them in ascending order using if-else construct.

Source Code:

```
large ascending.py
```

```
print("To find largest among three numbers and display in ascending order")
a = int(input("Enter first number :"))
b = int(input("Enter Second number :"))
c = int(input("Enter Third number :"))
if a>b:
    if a>c:
        l=a
    else:
        l=c
else:
    if(b>c):
        l=b
    else:
        l=c
print("Largest number is :",l)
li = [a,b,c]
li.sort()
print("Ascending Order is :",li)
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

To find largest among three numbers and display in ascending order 10
 Enter first number : 10
 Enter Second number : 20
 Enter Third number : 30
 Largest number is : 30
 Ascending Order is : [10, 20, 30]

Test Case - 2**User Output**

To find largest among three numbers and display in ascending order 12
 Enter first number : 12
 Enter Second number : 25
 Enter Third number : 98
 Largest number is : 98
 Ascending Order is : [12, 25, 98]

S.No: 13

Exp. Name: **Write a python script to create a list and add n number of user-defined values to the list and display the same on to the console screen.**

Date:2024-05-09

Aim:

Write a python script to create a list and add n number of user-defined values to the list and display the same on to the console screen.

Source Code:list_creation.py

```
n=int(input("Enter the size of list :"))
l=[]
for i in range (0,n):
    a=int(input("Enter the {} element :".format(i)))
    l.append(a)
print("The elements in the list are :")
for j in l:
    print(j, end=" ")
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

```
Enter the size of list :5
Enter the 0 element :1
Enter the 1 element :5
Enter the 2 element :3
Enter the 3 element :6
Enter the 4 element :5
The elements in the list are :
1 5 3 6 5
```

S.No: 2

Exp. Name: ***Write a python script to perform basic arithmetic operations on two values which are accepted from the user***

Date:2024-05-09

Aim:

Write a python script to perform basic arithmetic operations on two values which are accepted from the user

Source Code:

```
operation.py
```

```
a =int(input('Enter a number1: '))
b =int(input('Enter a number2: '))
print("Addition of {} and {}  is {}".format(a,b,a+b))
print("Subtraction of {} from {}  is {}".format(a,b,a-b))
print("Multiplication of {} with {}  is {}".format(a,b,a*b))
print("Division of {} by {}  is {}".format(a,b,a/b))
print("Modulus of {} by {}  is {}".format(a,b,a%b))
print("Floor Division of {} by {}  is {}".format(a,b,a//b))
print("Exponent of {} to the power of {}  is {}".format(a,b,a**b))
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

```
Enter a number1: 8
Enter a number2: 4
Addition of 8 and 4  is 12
Subtraction of 8 from 4  is 4
Multiplication of 8 with 4  is 32
Division of 8 by 4  is 2.0
Modulus of 8 by 4  is 0
Floor Division of 8 by 4  is 2
Exponent of 8 to the power of 4  is 4096
```

S.No: 12

Exp. Name: ***Write a python script to demonstrate string methods.*** 01.Capitaize the first character 02.Casefold the characters 03.Center the string 04.count the character 'a' in string 05.Encode to a binary 06.Check where the string ends with * 07.Check the position of the substring 'find' in the given input. 08.Starting index of 'c' character in a string 09.Check the string is numeric 10.Check the string is alphabet 11.Check the string is lower 12.split the string

Date:2024-05-09

Aim:

Write a python script to demonstrate string methods.
 01.Capitaize the first character
 02.Casefold the characters
 03.Center the string
 04.count the character 'a' in string
 05.Encode to a binary
 06.Check where the string ends with *
 07.Check the position of the substring 'find' in the given input.
 08.Starting index of 'c' character in a string
 09.Check the string is numeric
 10.Check the string is alphabet
 11.Check the string is lower
 12.split the string

Source Code:

```
string_methods.py
```

```
a=input("Enter String: ")
print("python script to demonstrate string methods")
print("To Capitaize first character ",a.capitalize())
print("To casefold the characters",a.casefold())
print("To center the string",a.center(75,"*"))
print("To count the character 'a' in string",a.count('a'))
print("To encode to a binary",a.encode())
print("To check where the string ends with *",a.endswith("*"))
print("To find the substring starting position",a.find("t",-1))
print("To get the starting index of 'c' character in a string",a.index('c'))
print("To check the string is numeric",a.isalnum())
print("To check the string is alphabet",a.isalpha())
print("To check the string is lower",a.islower())
print("To split the string",a.split())
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

```
Enter String: codetantra
python script to demonstrate string methods
To Capitaize first character Codetantra
To casefold the characters codetantra
To center the string *****codetantra*****
To count the character 'a' in string 2
To encode to a binary b'codetantra'
To check where the string ends with * False
```

To find the substring starting position -1
To get the starting index of 'c' character in a string 0
To check the string is numeric True
To check the string is alphabet True
To check the string is lower True
To split the string ['codetantra']

S.No: 1

Exp. Name: **Write a python script to display a simple message.**

Date:2024-05-09

Aim:

Write a python script to display a simple message.

Source Code:

sample_messag.py

```
print("Welcome to Python Programming Lab"  
    )
```

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Execution Results - All test cases have succeeded!

Test Case - 1

User Output

Welcome to Python Programming Lab

2022-2026-CSE-B

Srinivasa Ramanujan Institute of Technology

S.No: 10

Exp. Name: **Write a python script to display Fibonacci sequence of numbers using for loop constructs.**

Date:2024-05-09

Aim:

Write a python script to display Fibonacci sequence of numbers using for loop constructs.

Source Code:**fibonacci_for.py**

```
print("Fibonacci Sequence using for loop")
num = int(input("Enter length of series :"))
first = 0
second = 1
print("{}\n{}".format(first,second))
for val in range(num-2):
    third = first+second
    print(third)
    first = second
    second = third
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

Fibonacci Sequence using for loop 5

Enter length of series : 5

0

1

1

2

3

S.No: 11

Exp. Name: ***Write a python script to display Fibonacci sequence of numbers using do-while loop constructs.***

Date:2024-05-09

Aim:

Write a python script to display Fibonacci sequence of numbers using do-while loop constructs.

Source Code:

Fibonacci.py

```
print("Fibonacci Sequence emulating do-while")
num = int(input("Enter length of series :"))
first=0
second=1
print("{}\n{}".format(first,second))
i=0
while(True):
    third = first + second
    print(third)
    first = second
    second = third
    i+=1
    if(i>=num-2) :
        break
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

Fibonacci Sequence emulating do-while 5

Enter length of series : 5

0

1

1

2

3

Test Case - 2**User Output**

Fibonacci Sequence emulating do-while 7

Enter length of series : 7

0

1

1

2

3

5

8

S.No: 5

Exp. Name: **Write a python script to display the prime number series up to the given N Value**

Date:2024-05-09

Aim:

Write a python script to display the prime number series up to the given N Value

Source Code:**prime_interval.py**

```
start = int(input("Enter Starting value :"))
end = int(input("Enter Ending value :"))
for i in range (start,end+1):
    if(i>1) :
        for j in range(2,i) :
            if(i%j==0) :
                break
            else:
                print(i)
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

Enter Starting value : 2

Enter Ending value : 11

2

3

5

7

11

Aim:

Write a python program to perform Matrix Multiplication.

Source Code:

matrixmul.py

```

A=[]
B=[]
print("Enter values for matrix - A")
m=int(input("Number of rows, m = "))
n=int(input("Number of columns, n = "))
for i in range(1,m+1):
    a=[]
    for j in range(1,n+1):
        print("Entry in row: {} column: {}".format(i,j))
        a.append(int(input()))
    A.append(a)
print("Enter values for matrix - B")
p=int(input("Number of rows, m = "))
q=int(input("Number of columns, n = "))
for i in range(1,p+1):
    b=[]
    for j in range(1,q+1):
        print("Entry in row: {} column: {}".format(i,j))
        b.append(int(input()))
    B.append(b)
print("Matrix - A =",A)
print("Matrix - B =",B)
if(n==p):
    result=[[0 for i in range (q)] for j in range(m)]
    for i in range(len(A)):
        for j in range(len(B[0])):
            for k in range(len(B)):
                result[i][j]+=A[i][k]*B[k][j]
print("Matrix - A * Matrix- B =",result)

```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter values for matrix - A 3
Number of rows, m = 3
Number of columns, n = 3
Entry in row: 1 column: 1 12
Entry in row: 1 column: 2 7
Entry in row: 1 column: 3 3
Entry in row: 2 column: 1 4
Entry in row: 2 column: 2 5
Entry in row: 2 column: 3 6
Entry in row: 3 column: 1 7

```
Entry in row: 3 column: 2 8
Entry in row: 3 column: 3 9
Enter values for matrix - B 3
Number of rows, m = 3
Number of columns, n = 4
Entry in row: 1 column: 1 5
Entry in row: 1 column: 2 8
Entry in row: 1 column: 3 1
Entry in row: 1 column: 4 2
Entry in row: 2 column: 1 6
Entry in row: 2 column: 2 7
Entry in row: 2 column: 3 3
Entry in row: 2 column: 4 0
Entry in row: 3 column: 1 4
Entry in row: 3 column: 2 5
Entry in row: 3 column: 3 9
Entry in row: 3 column: 4 1
Matrix - A = [[12, 7, 3], [4, 5, 6], [7, 8, 9]]
Matrix - B = [[5, 8, 1, 2], [6, 7, 3, 0], [4, 5, 9, 1]]
Matrix - A * Matrix- B = [[114, 160, 60, 27], [74, 97, 73, 14], [119, 157, 112, 23]]
```

Aim:

Write a python script to calculate sum of individual digits of a given number

Source Code:

```
sumofindi.py
```

```
print("Sum of individual difits of a given number ")
num = int(input("Enter a number :"))
s=0
num1=num
while num>1:
    b=num%10
    s=s+b
    num = int(num/10)
print("The sum of {} is : {}".format(num1,s))
```

Execution Results - All test cases have succeeded!**Test Case - 1****User Output**

```
Sum of individual difits of a given number 5234
```

```
Enter a number : 5234
```

```
The sum of 5234 is : 14
```

Aim:

Write a **Python** program to find addition of two matrices.

Sample Input and Output-1:

```
Number of rows for matrix - A, m = 2
Number of columns for matrix - A, n = 3
Number of rows for matrix - B, p = 2
Number of columns for matrix - B, q = 3
Enter values for matrix - A
Entry in row: 1 column: 1
Entry in row: 1 column: 2
Entry in row: 1 column: 3
Entry in row: 2 column: 1
Entry in row: 2 column: 2
Entry in row: 2 column: 3
Enter values for matrix - B
Entry in row: 1 column: 1
Entry in row: 1 column: 2
Entry in row: 1 column: 3
Entry in row: 2 column: 1
Entry in row: 2 column: 2
Entry in row: 2 column: 3
Matrix a = [[11, 22, 33], [44, 55, 66]]
Matrix b = [[1, 2, 3], [4, 5, 6]]
Addition of two matrices = [[12, 24, 36], [48, 60, 72]]
```

Sample Input and Output-2:

```
Number of rows for matrix - A, m = 2
Number of columns for matrix - A, n = 2
Number of rows for matrix - B, p = 2
Number of columns for matrix - B, q = 3
Addition is not possible
```

Source Code:

Lab11b.py

```
m = int(input('Number of rows for matrix - A, m = '))
n = int(input('Number of columns for matrix - A, n = '))
p = int(input('Number of rows for matrix - B, p = '))
q = int(input('Number of columns for matrix - B, q = '))
if m!=p or n!=q:
    print("Addition is not possible")
else:
    a=[]
    b=[]
    c=[]
    print("Enter values for matrix - A")
    for i in range(m):
        row=[]
        for j in range(n):
            row.append(int(input()))
        a.append(row)
    print("Enter values for matrix - B")
    for i in range(p):
        row=[]
        for j in range(q):
            row.append(int(input()))
        b.append(row)
    for i in range(m):
        row=[]
        for j in range(n):
            row.append(a[i][j]+b[i][j])
        c.append(row)
    print("Addition of two matrices = ")
    for i in range(m):
        for j in range(n):
            print(c[i][j], end=" ")
        print()
```

```

x=int(input(f"Entry in row: {i+1} column: {j+1}\n"))
row.append(x)
a.append(row)
print("Enter values for matrix - B")
for i in range(p):
    row=[]
    for j in range(q):
        x=int(input(f"Entry in row: {i+1} column: {j+1}\n"))
        row.append(x)
    b.append(row)
for i in range(m):
    row=[]
    for j in range(n):
        row.append(a[i][j]+b[i][j])
    c.append(row)
print("Matrix a =",a)
print("Matrix b =",b)
print("Addition of two matrices =",c)

```

Execution Results - All test cases have succeeded!

Test Case - 1	
User Output	
Number of rows for matrix - A, m =	2
Number of columns for matrix - A, n =	3
Number of rows for matrix - B, p =	2
Number of columns for matrix - B, q =	3
Enter values for matrix - A	11
Entry in row: 1 column: 1	11
Entry in row: 1 column: 2	22
Entry in row: 1 column: 3	33
Entry in row: 2 column: 1	44
Entry in row: 2 column: 2	55
Entry in row: 2 column: 3	66
Enter values for matrix - B	1
Entry in row: 1 column: 1	11
Entry in row: 1 column: 2	22
Entry in row: 1 column: 3	33
Entry in row: 2 column: 1	4
Entry in row: 2 column: 2	5
Entry in row: 2 column: 3	6
Matrix a =	[[11, 22, 33], [44, 55, 66]]
Matrix b =	[[1, 2, 3], [4, 5, 6]]
Addition of two matrices =	[[12, 24, 36], [48, 60, 72]]

Test Case - 2	
User Output	
Number of rows for matrix - A, m =	2
Number of columns for matrix - A, n =	2
Number of rows for matrix - B, p =	2
Number of columns for matrix - B, q =	3
Addition is not possible	

Test Case - 3

User Output

```
Number of rows for matrix - A, m = 2
Number of columns for matrix - A, n = 2
Number of rows for matrix - B, p = 2
Number of columns for matrix - B, q = 2
Enter values for matrix - A 1
Entry in row: 1 column: 1 1
Entry in row: 1 column: 2 2
Entry in row: 2 column: 1 3
Entry in row: 2 column: 2 4
Enter values for matrix - B 1
Entry in row: 1 column: 1 1
Entry in row: 1 column: 2 2
Entry in row: 2 column: 1 3
Entry in row: 2 column: 2 4
Matrix a = [[1, 2], [3, 4]]
Matrix b = [[1, 2], [3, 4]]
Addition of two matrices = [[2, 4], [6, 8]]
```

Test Case - 4

User Output

```
Number of rows for matrix - A, m = 3
Number of columns for matrix - A, n = 3
Number of rows for matrix - B, p = 3
Number of columns for matrix - B, q = 3
Enter values for matrix - A 1
Entry in row: 1 column: 1 1
Entry in row: 1 column: 2 2
Entry in row: 1 column: 3 3
Entry in row: 2 column: 1 4
Entry in row: 2 column: 2 5
Entry in row: 2 column: 3 6
Entry in row: 3 column: 1 7
Entry in row: 3 column: 2 8
Entry in row: 3 column: 3 9
Enter values for matrix - B 9
Entry in row: 1 column: 1 9
Entry in row: 1 column: 2 8
Entry in row: 1 column: 3 7
Entry in row: 2 column: 1 6
Entry in row: 2 column: 2 5
Entry in row: 2 column: 3 4
Entry in row: 3 column: 1 3
Entry in row: 3 column: 2 2
Entry in row: 3 column: 3 1
Matrix a = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]
Matrix b = [[9, 8, 7], [6, 5, 4], [3, 2, 1]]
Addition of two matrices = [[10, 10, 10], [10, 10, 10], [10, 10, 10]]
```

S.No: 3

Exp. Name: **Write a python script to calculate the factorial of a given number.**

Date:2024-05-09

Aim:

Write a python script to calculate the factorial of a given number.

Source Code:

factorial.py

```
n = int(input('Enter a number :'))
fac = 1
for i in range(1,n+1):
    fac = fac*i
print('Factorial of',n,'is',fac)
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

Enter a number : 5

Factorial of 5 is 120