

1. Write a python program to implement Simple Calculator program?

Program:

```
#program to implement Simple Calculator

print("1 : addittion")
print("2 : subtraction")
print("3 : multiplication")
print("4 : division")
while True:
    x=int(input("Enter the x=1/2/3/4 value for calculating"))
    if x==1 or x==2 or x==3 or x==4 :
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))
        if x==1:
            a=num1+num2
            print(num1, "+", num2, "=", a)
        elif x==2:
            s=num1-num2
            print(s)
        elif x==3:
            m=num1*num2
            print(m)
        elif x==4:
            d=num1/num2
            print(d)

    y = input("Let's do next calculation? (yes/no): ")
    if y == "no":
        break
    else:
        print("invalid input")
```

OUTPUT:

```
IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Rohith kumar\OneDrive\Desktop\AI LAB\cal.py =====
1 : addittion
2 : subtraction
3 : multiplication
4 : division
Enter the x=1/2/3/4 value for calculating1
Enter first number: 5
Enter second number: 5
5.0 + 5.0 = 10.0
Let's do next calculation? (yes/no): yes
Enter the x=1/2/3/4 value for calculating3
Enter first number: 20
Enter second number: 5
100.0
Let's do next calculation? (yes/no): no
>>> |
```

2. Write a python program to Add Two Matrices.

Program:

```
row= int(input("enter no of rows"))
col=int(input("enter no of columns:"))
print("enter the elemets of matrix1:")
matrix1 = [[int(input()) for i in range(col)] for j in range(row)]
print("matrix1:")
for i in range(row):
    for j in range(col):
        print(format(matrix1[i][j], "<3"), end=" ")
    print()
print("enter the elements of matrix2:")
matrix2 = [[int(input()) for i in range(col)] for j in range(row)]
print("matrix2:")
for i in range(row):
    for j in range(col):
        print(format(matrix2[i][j], "<3"), end=" ")
    print()
result=[[0 for i in range(col)] for j in range(row)]

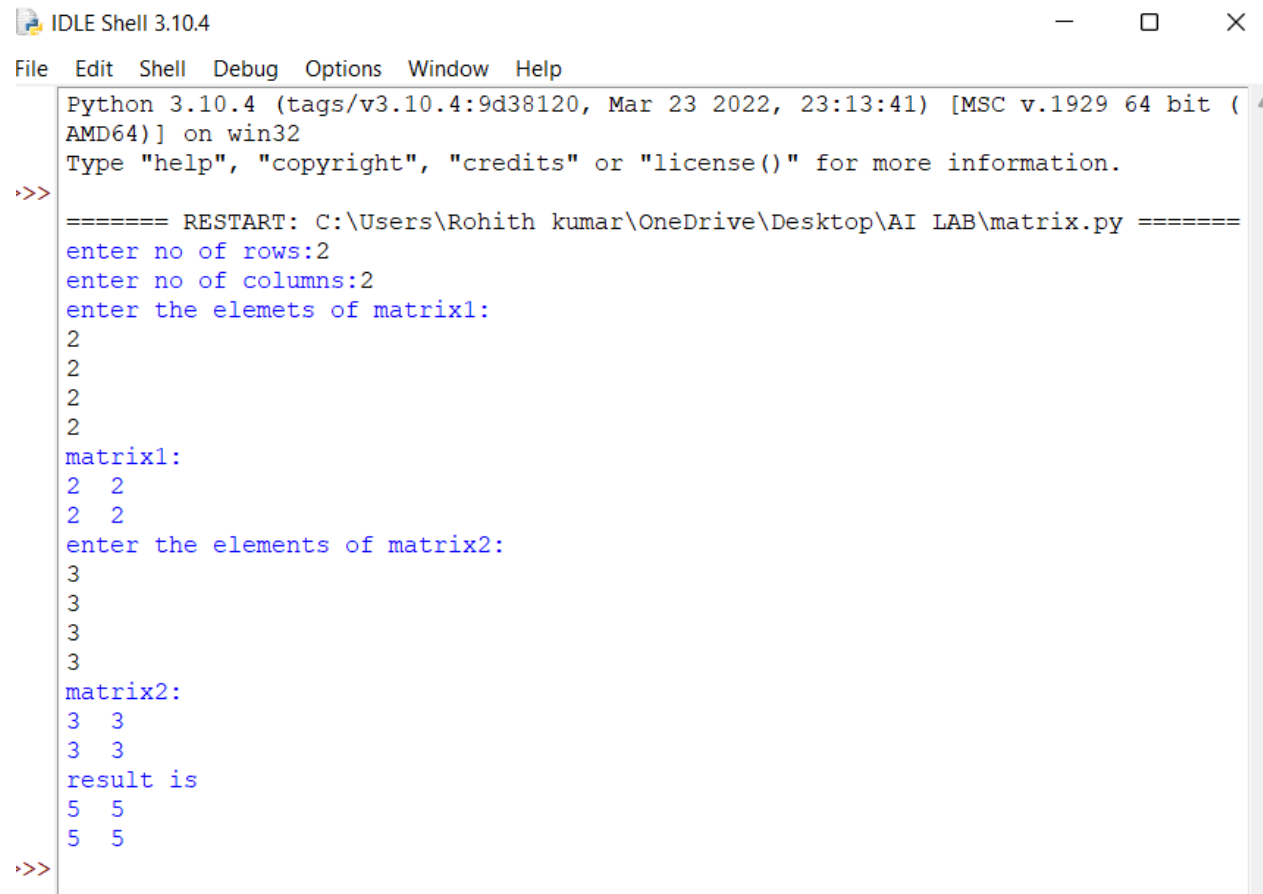
for i in range(row):
    for j in range(col):
        result[i][j] = matrix1[i][j] + matrix2[i][j]
```

```

print("result is")
for i in range(row):
    for j in range(col):
        print(format(result[i][j], "<3"), end="")
    print()

```

OUTPUT:



```

IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Rohith kumar\OneDrive\Desktop\AI LAB\matrix.py =====
enter no of rows:2
enter no of columns:2
enter the elemets of matrix1:
2
2
2
2
matrix1:
2 2
2 2
enter the elements of matrix2:
3
3
3
3
matrix2:
3 3
3 3
result is
5 5
5 5
>>>

```

3. Write a python program to Transpose a Matrix.

Program:

```

p=int(input("enter the number of rows:"))
q=int(input("enter the number of columns:"))

print("enter the elements for matrix1:")
matrix1 = [[int(input()) for i in range(q)] for j in range(p)]
print("matrix1:")
for i in range(p):
    for j in range(q):
        print(format(matrix1[i][j], "<4"), end="")

```

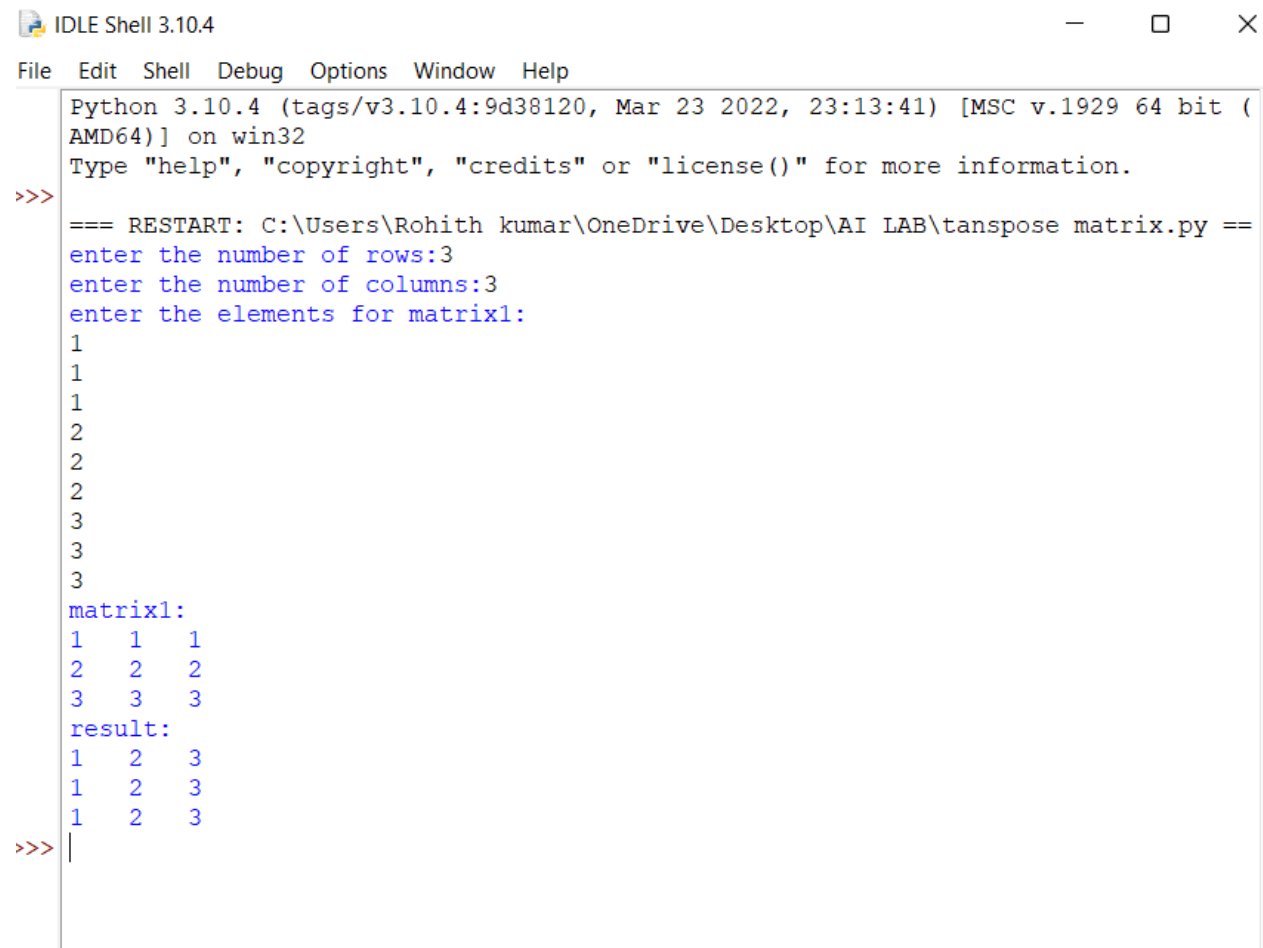
```

print()

result = [[0 for i in range(p)] for j in range(q)]
for i in range(q):
    for j in range(p):
        result[i][j] = matrix1[j][i]
print("result:")
for i in range(q):
    for j in range(p):
        print(format(result[i][j], "<4"), end="")
    print()

```

OUTPUT:



The screenshot shows the IDLE Shell 3.10.4 window. The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The shell displays the following output:

```

Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Rohith kumar\OneDrive\Desktop\AI LAB\tanspose matrix.py ==
enter the number of rows:3
enter the number of columns:3
enter the elements for matrix1:
1
1
1
2
2
2
3
3
3
matrix1:
1  1  1
2  2  2
3  3  3
result:
1  2  3
1  2  3
1  2  3
>>>

```

4. Write a python program to sort the sentence in alphabetical order?

Program:

```

print("Enter the String: ", end="")
str = input()

```

```
str = sorted(str)
str = "".join(str)

print("\nSorted String is:", str)
```

OUTPUT:



5. Write a python program to implement List operations (Nested List, Length, Concatenation, Membership, Iteration, Indexing and Slicing)?

Program:

```
Nested_List = [10, 20, 30, ['a', 'b', 'c'], 50]
Sub_List = Nested_List[3]
data = Nested_List[3][1]
print("List inside the nested list: ", Sub_List)
print("Second element of the sublist: ", data)
```

6. Write a python program to implement List methods (Add, Append, Extend & Delete).

Program:

7. Write a python program to Illustrate Different Set Operations?

Program:

```
E = {0, 2, 4, 6, 8};
N = {1, 2, 3, 4, 5};
print("Union of E and N is", E | N)
print("Intersection of E and N is", E & N)
print("Difference of E and N is", E - N)
```

```
print("Symmetric difference of E and N is",E ^ N)
```

OUTPUT:

```
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.192
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more informati
>>>
=== RESTART: C:\Users\Rohith kumar\OneDrive\Desktop\AI LAB\set operati
Union of E and N is {0, 1, 2, 3, 4, 5, 6, 8}
Intersection of E and N is {2, 4}
Difference of E and N is {0, 8, 6}
Symmetric difference of E and N is {0, 1, 3, 5, 6, 8}
>>> |
```

8. Write a python program to generate Calendar for the given month and year?

Program:

```
import calendar
```

```
yy = 2022
```

```
mm = 10
```

```
print(calendar.month(yy, mm))
```

OUTPUT:

```
e Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>
===== RESTART: C:\Users\Rohith kumar\OneDrive\Desktop\AI LAB\calender.py =====
      October 2022
Mo Tu We Th Fr Sa Su
                1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
> |
```

9. Write a python program to remove punctuations from the given string?

Program:

```
punctuations = ""!()-[]{};:'"\,<>./?@#$$%^&* _~"
```

```
my_str = "Hello!!!, he said ---and went."
```

```
no_punct = ""
```


```
for char in my_str:
```

```
    if char not in punctuations:
```

```
        no_punct = no_punct + char
```

```
print(no_punct)
```

OUTPUT:

 IDLE Shell 3.10.4

File Edit Shell Debug Options Window Help

Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 AMD64] on win32

Type "help", "copyright", "credits" or "license()" for more information.

>>

= RESTART: C:\Users\Rohith kumar\OneDrive\Desktop\AI LAB\removing punctu
Y

Hello he said and went

>> |