Semester	S.E. Semester III – INFT
Subject	Python Programming Lab (SBL)
Laboratory Teacher:	Shruti Agrawal
Laboratory	L07D & M312A

Student Name	Mohammad Ahmed Ansari	
Roll Number	21101B0031	
Grade and Subject Teacher's Signature		

Experiment Number	06	
Problem Statement	Write a python program to search an element in 1D Array.	
Resources / Apparatus Required	Hardware: Desktop/Laptop	Software: Colab

| Code: | ```python
import array as arr
ar=arr.array('i', []) while
1:
  ch=int(input("\nMenu\n1.Add     element\n    2.Display
array\n 3.search element\n 4.Delete element\n 5.Exit\n
Enter Choice : "))   if ch==1:
    a=int(input("Enter integer to be added in the array
: "))
    ar.append(a)
       if
ch==2:
``` |
| --- | --- |

```python
    print ("The created array is : ", end =" ")
for p in range(0, len(ar)) :        print
(ar[p], end =" ")       print()


  if ch==3:
    b=int(input("Enter element to be search: "))
if b in ar:
     print("Element found ")
print("Postion: ",ar.index(b)+1)     else:
     print("Element not found")

if ch==4:
    c=int(input("Enter interger to be deleted in the arr
ay: "))     if c in ar:        ar.remove(c)
print("Element deleted")     else:
     print("Element not found")
   if
ch==5:
break
```

Output:	
| | ```
Menu
1.Add element
 2.Display array
 3.search element
 4.Delete element
 5.Exit
   Enter Choice : 1
Enter integer to be added in the array: 56

Menu
1.Add element
 2.Display array
 3.search element
 4.Delete element
 5.Exit
   Enter Choice : 2
The created array is :  56

Menu
1.Add element
 2.Display array
 3.search element
 4.Delete element
 5.Exit
   Enter Choice : 3
Enter element to be search: 56
Element found
Postion:  1
``` |

```
Menu
1.Add element
 2.Display array
 3.search element
 4.Delete element
 5.Exit
  Enter Choice : 4
Enter interger to be deleted in the arr ay: 56
Element deleted

Menu
1.Add element
 2.Display array
 3.search element
 4.Delete element
 5.Exit
  Enter Choice : 5
```

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Experiment Number	07	
Problem Statement	Write a python program to accept two matrices and find their transpose, addition and product.	
Resources / Apparatus Required	Hardware: Desktop/Laptop	Software: Colab

| Code: | ```python
from numpy import * while
True:
  ch=int(input("\nMenu\n1.Form matrix\n2.Add\n3.Transpos
e\n4.Multiply\n5.Exit\nEnter Choice: "))    if ch==1:
    a=int(input("Enter no of rows: "))
b=int(input("Enter no of column: "))    print("Enter
element of 1st matrix of", a,"rows", b,
"column" )
matrix=[]    for i in
range(a):
        r = []
for j in range(b):
``` |

```python
            r.append(int(input("Enter a element: ")))
matrix.append(r)        for i in range(a):
for j in range(b):
        print(matrix[i][j], end=" ")            print()
print("Enter element of 2nd matrix", a,"rows", b,"co
lumn")      matrix1=[]     for i1 in range(a):
        r1 = []                for j1 in range(b):
r1.append(int(input("Enter a element: ")))
matrix1.append(r1)         for i1 in range(a):
for j1 in range(b):
        print(matrix1[i1][j1], end=" ")
print()    if ch==2:
    print("Addition of matrix :")
m=add(matrix,matrix1)      for i
in range(a):           for j in
range(b):
        print(m[i][j], end=" ")
print()    if ch==3:
    print("Transpose of 1st matrix:")
for i in range(a):          for j in
range(b):
        print(matrix[j][i], end=" ")
print()     print("Transpose of 2nd
matrix:")        for i1 in range(a):
for j1 in range(b):
        print(matrix1[j1][i1], end=" ")
print()    if ch==4:
    print("Multiplication of matrix :")
m1=multiply(matrix,matrix1)     for i
in range(a):          for j in range(b):
        print(m1[i][j], end=" ")
print()    if ch==5:     break
```

Output:

```
Menu:
1. Enter matrices
2. Transpose
3. Add
4. Multiply
5. Exit
Enter your choice: 2
Transpose of first matrix:
5 4
6 3
Transpose of second matrix:
8 5
9 6
```

```
Menu:
1. Enter matrices
2. Transpose
3. Add
4. Multiply
5. Exit
Enter your choice: 1
Enter the number of rows in matrix 1: 2
Enter the number of columns in matrix 1: 2
Enter the elements of matrix 1:
5
6
4
3
Enter the number of rows in matrix 2: 2
Enter the number of columns in matrix 2: 2
Enter the elements of matrix 2:
8
9
5
6
```

```
Menu:
1. Enter matrices
2. Transpose
3. Add
4. Multiply
5. Exit
Enter your choice: 3
Sum of matrices:
[13, 15]
[9, 9]

Menu:
1. Enter matrices
2. Transpose
3. Add
4. Multiply
5. Exit
Enter your choice: 4
Product of matrices:
[70, 81]
[47, 54]
```