Program 1: Python Program to Swap Two Elements in a List..

```
  def swapPositions(list, pos1, pos2):

        list[pos1], list[pos2] = list[pos2], list[pos1]
        return list

# Driver function
List = [23, 65, 19, 90]
pos1, pos2 = 1, 3

print(swapPositions(List, pos1-1, pos2-1))
```

Output:

Program 2: Python Program to check if given array is Monotonic..

```
def isMonotonic(A):
        x, y = [], []
        x.extend(A)
        y.extend(A)
        x.sort()
        y.sort(reverse=True)
        if(x == A or y == A):
                return True
        return False


# Driver program
A = [6, 5, 4, 4]

# Print required result
print(isMonotonic(A))
```

Output:

```
True
```

Program 3: Python Program for Find remainder of array multiplication divided by n..

```
from functools import reduce


def find_remainder(arr, n):
        sum_1 = reduce(lambda x, y: x*y, arr)
        remainder = sum_1 % n
        print(remainder)


arr = [100, 10, 5, 25, 35, 14]
n = 11
find_remainder(arr, n)
```

Output:

Program 4: Python Program to Find Sum of Array..

```
def _sum(arr):

        # initialize a variable
        # to store the sum
        # while iterating through
        # the array later
        sum = 0

        # iterate through the array
        # and add each element to the sum variable
        # one at a time
        for i in arr:
                sum = sum + i

        return(sum)


# main function
if __name__ == "__main__":
        # input values to list
        arr = [12, 3, 4, 15]

        # calculating length of array
        n = len(arr)
        # calling function ans store the sum in ans
        ans = _sum(arr)
        # display sum
        print('Sum of the array is ', ans)
```

Output:

Program 5: Python program to print all positive numbers in a range..

```
start = int(input("Enter the start of range: "))
end = int(input("Enter the end of range: "))

# iterating each number in list
for num in range(start, end + 1):

        # checking condition
        if num >= 0:
                print(num, end=" ")
```

Output:

```
Enter the start of range: -4
Enter the end of range: 18
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
```

Program 6:Python program to multiply two matrices..

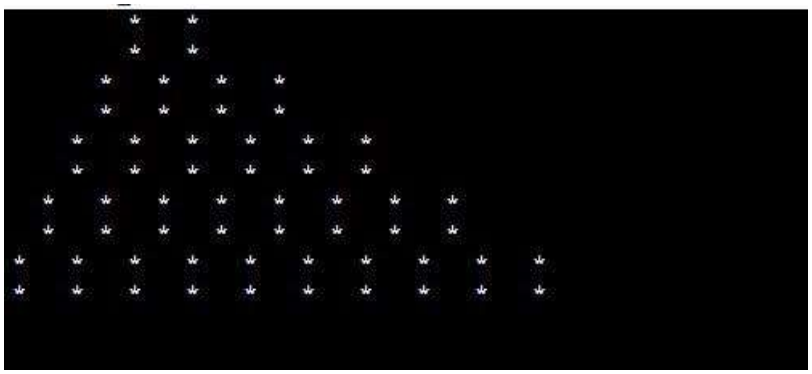
```
A = [[12, 7, 3],
        [4, 5, 6],
        [7, 8, 9]]

# take a 3x4 matrix
B = [[5, 8, 1, 2],
        [6, 7, 3, 0],
        [4, 5, 9, 1]]

# result will be 3x4
result = [[sum(a * b for a, b in zip(A_row, B_col))
                    for B_col in zip(*B)]
                        for A_row in A]

for r in result:
        print(r)
```

Output:

Program 7: Program to print double sided staircase pattern..

```
# function definition
def pattern(n):

        # for loop for rows
        for i in range(1,n+1):

                # conditional operator
                k =i + 1 if(i % 2 != 0) else i

                # for loop for printing spaces
                for g in range(k,n):
                        if g>=k:
                                print(end=" ")

                # according to value of k carry
                # out further operation
                for j in range(0,k):
                    if j == k - 1:
                       print(" * ")
                    else:
                      print(" * ", end = " ")


# Driver code
n = 10
pattern(n)
```

Output:



Program 8: Python program to find difference between current time and given time..

```
from datetime import *
import pytz


tz_INDIA = pytz.timezone('Asia/Kolkata')
datetime_INDIA = datetime.now(tz_INDIA)
print("INDIA time:", datetime_INDIA.strftime("%H:%M:%S"))
```

Output:

Program 9: Find the size of a Tuple in Python..

```
# sample Tuples
Tuple1 = ("A", 1, "B", 2, "C", 3)
Tuple2 = ("Geek1", "Raju", "Geek2", "Nikhil", "Geek3", "Deepanshu")
Tuple3 = ((1, "Lion"), ( 2, "Tiger"), (3, "Fox"), (4, "Wolf"))

# print the sizes of sample Tuples
print("Size of Tuple1: " + str(Tuple1.__sizeof__()) + "bytes")
print("Size of Tuple2: " + str(Tuple2.__sizeof__()) + "bytes")
print("Size of Tuple3: " + str(Tuple3.__sizeof__()) + "bytes")
```

Output: