1. WAP to print the sum of list elements.

# Declaring a list

list = [10, 20, 30, 40, 50]

# printing without using FOR and IN

print "List elements are: ", list

print " " # prints new line

# printing using FOR and IN

print "List elements are: "

for L in list:

print L

print " " # prints new line

# calculating Sum of all elements

sum = 0

for L in list:

sum += L

print "Sum is: ", sum

1. Remove first occrrance of element from list

# Declaring a list

list = [10, 20, 30, 40, 30]

# print list

print "List element:"

for l in range(len(list)):

print (list[l])

# removing 30 from the list

list.remove(30);

# print list after removing 30

print "List element after removing 30:"

for l in range(len(list)):

print (list[l])

1. Remove all occurrence of elements from a list.

# list with integer elements

list = [10, 20, 10, 30, 10, 40, 10, 50]

# number (n) to be removed

n = 10

# print original list

print ("Original list:")

print (list)

# loop to traverse each element in list

# and, remove elements

# which are equals to n

i=0 #loop counter

length = len(list) #list length

while(i<length):

if(list[i]==n):

list.remove (list[i])

# as an element is removed

# so decrease the length by 1

length = length -1

# run loop again to check element

# at same index, when item removed

# next item will shift to the left

continue

i = i+1

# print list after removing given element

print ("list after removing elements:")

print (list)

1. Inserting elements at sepecific position

# Declaring a list

list = [10, 20, 30]

# printing elements

print (list)

# O/P will be: [10, 20, 30]

# inserting "ABC" at 1st index

list.insert (1, "ABC")

# printing

print (list)

# O/P will be: [10, 'ABC', 20, 30]

# inserting "PQR" at 3rd index

list.insert (3, "PQR")

# printing

print (list)

# O/P will be: [10, 'ABC', 20, 'PQR', 30]

# inserting 'XYZ' at 5th index

list.insert (5, "XYZ")

print (list)

# O/P will be: [10, 'ABC', 20, 'PQR', 30, 'XYZ']

# inserting 99 at second last index

list.insert (len (list) -1, 99)

# printing

print (list)

# O/P will be: [10, 'ABC', 20, 'PQR', 30, 99, 'XYZ']

1. Remove elements in a range.

# Declaring a list

list = [10, 20, 30, 40, 50]

# print list

print "List element:"

for l in range(len(list)):

print (list[l])

# delete element from index 1 to 30del list[1.3]

del list[1:3]

# print list after deleting

# element from index 1 to 3

print "List element after del[1:3]:"

for l in range(len(list)):

print (list[l])

1. Sort list

# List of integers

num = [10, 30, 40, 20, 50]

# sorting and printing

num.sort()

print (num)

# List of float numbers

fnum = [10.23, 10.12, 20.45, 11.00, 0.1]

# sorting and printing

fnum.sort()

print (fnum)

# List of strings

str = ["Banana", "Cat", "Apple", "Dog", "Fish"]

# sorting and printing

str.sort()

print (str)

1. Difference of two lists.

# list1 - first list of the integers

# lists2 - second list of the integers

list1 = [10, 20, 30, 40, 50]

list2 = [10, 20, 30, 60, 70]

# printing lists

print "list1:", list1

print "list2:", list2

# finding and printing differences of the lists

print "Difference elements:"

print (list (set(list1) - set (list2)))

1. Index of first matched element

# declare a list of Integers

list = [10, 20, 10, 20, 30, 40, 50]

# printing index of 10

print (list.index (10))

#printing index of 20

print (list.index (20))

# printing index of 30

print (list.index (30))

# printing index of 40

print (list.index (40))

# printing index of 50

print (list.index (50))

1. Input append and print list.

# declare a list

list = []

# read limit (value of n)

# for maximum number of elements

n = int (input ("Enter limit of the list: "))

# input n integer element

# and append to the list

for i in range (n) :

item = int (input ("Enter an integer: "))

list.append (item)

# print all elements

print "Input list elements are: "

for i in range (n) :

print list [i]

1. Create odd and even lists.

# declare and assign list1

list1 = [11, 22, 33, 44, 55]

# declare listOdd - to store odd numbers

# declare listEven - to store even numbers

listOdd = []

listEven = []

# check and append odd numbers in listOdd

# and even numbers in listEven

for num in list1:

if num%2 == 0:

listEven.append(num)

else:

listOdd.append(num)

# print lists

print "list1: ", list1

print "listEven: ", listEven

print "listOdd: ", listOdd

1. Divisible only by M and N from a list.

# declare a list of integers

list = [10, 15, 20, 25, 30]

# declare and assign M and N

M = 3

N = 5

# print the list

print "List is: ", list

# Traverse each element and check

# whether it is divisible by M, N

# or not, if condition is true print

# the element

print "Numbers divisible by {0} and {1}".format (M, N)

for num in list:

if( num%M==0 and num%N==0 ) :

print num

1. Create square and cube list.

# declare lists

numbers = []

squares = []

cubes = []

# start and end numbers

start = 1

end = 10

# run a loop from start to end+1

for count in range (start, end+1) :

numbers.append (count)

squares.append (count\*\*2)

cubes.append (count\*\*3)

# print the lists

print "numbers: ",numbers

print "squares: ",squares

print "cubes : ",cubes

1. Remove odd elements

# list with EVEN and ODD number

list = [11, 22, 33, 44, 55]

# print original list

print "Original list:"

print list

# loop to traverse each element in the list

# and, remove elements

# which are EVEN (divisible by 2)

for i in list:

if(i%2 == 0):

list.remove(i)

# print list after removing EVEN elements

print "list after removing EVEN numbers:"

print list

1. WAP to add given two matrices

X = [[1,2,3],

       [4,5,6],

       [7,8,9]]

Y = [[10,11,12],

       [13,14,15],

       [16,17,18]]

Result = [[0,0,0],

                [0,0,0],

                [0,0,0]]

# iterate through rows

**for** i **in** range(len(X)):

   # iterate through columns

**for** j **in** range(len(X[0])):

       result[i][j] = X[i][j] + Y[i][j]

**for** r **in** result:

**print**(r)

1. WAP to multiply given two matrices

X = [[1,2,3],

       [4,5,6],

       [7,8,9]]

Y = [[10,11,12],

      [13,14,15],

      [16,17,18]]

Result = [[0,0,0],

               [0,0,0],

              [0,0,0]]

# iterate through rows of X

**for** i **in** range(len(X)):

**for** j **in** range(len(Y[0])):

**for** k **in** range(len(Y)):

           result[i][j] += X[i][k] \* Y[k][j]

**for** r **in** result:

**print**(r)

1. WAP to print transpose of given matrix

X = [[1,2],

      [4,5],

     [7,8]]

Result = [[0,0,0],

             [0,0,0]]

# iterate through rows

**for** i **in** range(len(X)):

**for** j **in** range(len(X[0])):

       result[j][i] = X[i][j]

**for** r **in** result:

**print**(r)

1. WAP to enter any two matrices and add them

# Program to add two matrices using nested loop

A=[]

n=int(input("Enter N for N x N matrix : ")) #3 here

#use list for storing 2D array

#get the user input and store it in list (here IN : 1 to 9)

print("Enter the element ::>")

for i in range(n):

row=[] #temporarylist to store the row

for j in range(n):

row.append(int(input())) #add the input to row list

A.append(row) #add the row to the list

print(A)

# [[1, 2, 3], [4, 5, 6], [7, 8, 9]]

#Display the 2D array

print("Display Array In Matrix Form")

for i in range(n):

for j in range(n):

print(A[i][j], end=" ") #new line

print()

B=[]

n=int(input("Enter N for N x N matrix : ")) #3 here

#use list for storing 2D array

#get the user input and store it in list (here IN : 1 to 9)

print("Enter the element ::>")

for i in range(n):

row=[] #temporarylist to store the row

for j in range(n):

row.append(int(input())) #add the input to row list

B.append(row) #add the row to the list

print(B)

# [[1, 2, 3], [4, 5, 6], [7, 8, 9]]

#Display the 2D array

print("Display Array In Matrix Form")

for i in range(n):

for j in range(n):

print(B[i][j], end=" ")

print() #new line

result = [[0,0,0], [0,0,0], [0,0,0]]

# iterate through rows

for i in range(n):

# iterate through columns

for j in range(len(A[0])):

result[i][j] = A[i][j] + B[i][j]

print("Resultant Matrix is ::>")

for r in result:

print("Resultant Matrix is ::>",r)