1. Create a list of 10 elements of four different data types like int, string, complex and float.

mylist = [0,1,2,3]

mylist[0]="Catenation"

mylist[1]=123

mylist[2]=1.5

mylist[3]=1=2j

print(mylist[0])

1. Create a list of size 5 and execute the slicing structure

num=[1,2,3,4,5]

num[1:3:5]=[2,4]

print(num)

1. Write a program to get the sum and multiply of all the items in each list.

num=[1,2,3,4,5]

sum=0

product=1

for i in range(len(num)):

    sum+=num(i)

    product\*=num(i)

print("Sum is:")

print("Product is:")

1. Find the largest and smallest number from a given list.

num=[1,2,3,4,5]

largest=5

smallest=1

print("largest number in the list is",large)

print("smallest number in the list is",small)

1. Create a new list which contains the specified numbers after removing the even numbers from a predefined list.

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

print("Original List:")

print(list)

for i in list:

    if i % 2 == 0:

        list.remove(i)

print("List removing even numbers:")

print(list)

1. Create a list of elements such that it contains the squares of the first and last 5 elements between 1 and 30 (both included).

def printvalues():

    l=list()

    for i in range(1.30):

        l.append(i\*\*2)

    print(l[5:])

    print(l[-5:])

printvalues()

1. Write a program to replace the last element in a list with another list. Sample input: [1,3,5,7,9,10], [2,4,6,8] Expected output: [1,3,5,7,9,2,4,6,8]

l=[1,2,3]

l1=[4,5]

l=l[:-1]+l1

print(l)

1. Create a new dictionary by concatenating the following two dictionaries: Sample input: a={1:10,2:20} b={3:30,4:40} Expected output: {1:10,2:20,3:30,4:40}

a={1:10,2:20}

b={3:30,4:40}

print("New Dictionary a:")

print(a)

1. Create a dictionary that contain numbers in the form(x:x\*x) where x takes all the values between 1 and n(both 1 and n included). Sample input: n=5 Expected output: {1:1, 2:4, 3:9, 4:16, 5:25}

number=int(input("Maximum Number:"))

Dictionary={x: x\*x for x in range(1, number+1)}

print("\nDictionary=", Dictionary)

1. Write a program which accepts a sequence of comma-separated numbers from console and generates a list and a tuple which contains every number in the form of string. Sample input: 34,67,55,33,12,98 Expected output: [‘34’,’67’,’55’,’33’,’12’,’98’] (‘34’,’67’,’55’,’33’,’12’,’98’)

values=input("Comma Separated Numbers:")

list = values.split(",")

tuple= tuple(list)

print("list:",list)

print("tuple:",tuple)