Question 1¶

Create an empty list. Accept 10 numbers from the user and append to it the list if it is an even number.

Answer:

Sample\_list = list()

For I in range(1,11):

Num = int(input())

If num % 2 == 0:

Sample\_list.append(num)

Print(sample\_list)

3

45

23

46

986

345

76

59

80

54

[46, 986, 76, 80, 54]

Question 2

Create a notebook on LIST COMPREHENSION. This exercise is to put you in a Self learning mode

Answer

# 1. Printing all even numbers between 1 to 10 using list comprehension

Lst = [I for I in range(2, 11, 2)]

Print(lst)

# 2. Use of if statement in list comprehension

Lst2 = [i\*I for I in range(1, 21) if i%1 == 0]

Print(lst2)

[2, 4, 6, 8, 10]

[1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400]

Question 3

In this assignment, given a number n, you have to write a program that generates a dictionary d which contains (I, i\*i), where I is from 1 to n (both included). Then you have to just print this dictionary d.

Answer:

N= int(input())

Sample\_dict=dict()

For I in range(1, n+1):

Sample\_dict.update({i:i\*i})

Print(sample\_dict)

## Alternate way

# n= int(input())

# sample\_dict = {i:i\*I for I in range(1, n+1)}

# print(sample\_dict)

8

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}

Question 4

There is a robot which wants to go the charging point to charge itself. The robot moves in a 2-D plane from the original point (0,0). The robot can move toward UP, DOWN, LEFT and RIGHT with given steps.

Answer:

From math import sqrt

N = int(input())

X,y = 0, 0

For I in range(1,n+1):

Direction, dist = input().split()

Dist = int(dist)

If direction == ‘UP’:

Y = y + dist

Elif direction == ‘DOWN’:

Y = y – dist

Elif direction == ‘LEFT’:

X = x – dist

Elif direction == ‘RIGHT’:

X = x + dist

Else:

Print(‘INVALID Input’)

Break

Distance = int(round(sqrt(x\*\*2+y\*\*2), 0))

Print(distance)

4

UP 5

DOWN 3

LEFT 3

RIGHT 2

2