Question1

Create a function that takes a list of strings and integers, and filters out the list so that it returns a list of integers only.

**Examples**

filter\_list([1, 2, 3, "a", "b", 4]) ➞ [1, 2, 3, 4]

filter\_list(["A", 0, "Edabit", 1729, "Python", "1729"]) ➞ [0, 1729]

filter\_list(["Nothing", "here"]) ➞ []

lst = [1, 2, 3, 'a', 'b', 4]

def filter\_list(lst):

intLst = []

for i in lst:

if type(i) == int:

intLst.append(i)

return intLst

filter\_list([1, 2, 3, 'a', 'b', 4])

filter\_list(['A', 0, 'Edabit', 1729, 'Python', '1729'])

filter\_list(['Nothing', 'here'])

Question2

Given a list of numbers, create a function which returns the list but with **each element's index in the list added to itself**. This means you add 0 to the number at index 0, add 1 to the number at index 1, etc...

### Examples

add\_indexes([0, 0, 0, 0, 0]) ➞ [0, 1, 2, 3, 4]

add\_indexes([1, 2, 3, 4, 5]) ➞ [1, 3, 5, 7, 9]

add\_indexes([5, 4, 3, 2, 1]) ➞ [5, 5, 5, 5, 5]

def add\_indexes(lst):

ind = 0

index = []

for i in lst:

index.append(lst.index(i,ind) + i)

ind+=1

return index

add\_indexes([0, 0, 0, 0, 0])

add\_indexes([1, 2, 3, 4, 5])

add\_indexes([5, 4, 3, 2, 1])

Question3

Create a function that takes the height and radius of a cone as arguments and returns the volume of the cone rounded to the nearest hundredth. See the resources tab for the formula.



### Examples

cone\_volume(3, 2) ➞ 12.57

cone\_volume(15, 6) ➞ 565.49

cone\_volume(18, 0) ➞ 0

import math

pi = math.pi

# Function to calculate Volume of Cone

def cone\_volume(r, h):

return round((1 / 3) \* pi \* r \* r \* h)

# Driver Code

radius = float(5)

height = float(12)

print( "Volume Of Cone : ", cone\_volume(radius, height) )

cone\_volume(3, 2)

cone\_volume(15, 6)

cone\_volume(18, 0)

Question4

This Triangular Number Sequence is generated from a pattern of dots that form a triangle. The first 5 numbers of the sequence, or dots, are:

1, 3, 6, 10, 15

This means that the first triangle has just one dot, the second one has three dots, the third one has 6 dots and so on.

Write a function that gives the number of dots with its corresponding triangle number of the sequence.

### Examples

triangle(1) ➞ 1

triangle(6) ➞ 21

triangle(215) ➞ 23220

def triangle(n):

return n\*(n+1)\*0.5

n = int(input('Enter the trinalge number :'))

print("The {}th triangle has {} dots ".format(n,int(triangle(n))))

triangle(215)

Question5

Create a function that takes a list of numbers between 1 and 10 (excluding one number) and returns the missing number.

### Examples

missing\_num([1, 2, 3, 4, 6, 7, 8, 9, 10]) ➞ 5

missing\_num([7, 2, 3, 6, 5, 9, 1, 4, 8]) ➞ 10

missing\_num([10, 5, 1, 2, 4, 6, 8, 3, 9]) ➞ 7

def missing\_num(lst):

total = sum([x for x in range(11)])

sum\_Of\_list = sum(lst)

return total - sum\_Of\_list

print(missing\_num([1, 2, 3, 4, 6, 7, 8, 9, 10]))

missing\_num([7, 2, 3, 6, 5, 9, 1, 4, 8])

missing\_num([10, 5, 1, 2, 4, 6, 8, 3, 9])