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, &quot;a&quot;, &quot;b&quot;, 4]) ➞ [1, 2, 3, 4]

filter\_list([&quot;A&quot;, 0, &quot;Edabit&quot;, 1729, &quot;Python&quot;, &quot;1729&quot;]) ➞ [0, 1729]

filter\_list([&quot;Nothing&quot;, &quot;here&quot;]) ➞ []

A:

def filter\_list():

l=["a","b",1,3,"c",4]

l=str(l)

l1=[]

for i in l:

if i.isdigit():

l1.append(int(i))

return l1

filter\_list()

Question2

Given a list of numbers, create a function which returns the list but with each element&#39;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]

A:

def add\_indexes(lst):

a=0

index = []

for i in lst:

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

a=a+1

return index

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

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

A:

def col\_vol(r,h):

vol=round((3.14\*r\*r\*h)/3)

return vol

col\_vol(3,2)

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

A:

def triangle(n):

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

triangle(6)

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

A:

def missing\_num(lst):

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

print(total)

sum\_Of\_list = sum(lst)

print(sum\_Of\_list)

return total - sum\_Of\_list

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