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"]) ➞ []

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]

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

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

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

Question 1

Here is a function `filter_list()` that takes a list of mixed strings and integers and returns a list of integers only.

python
```
def filter_list(lst):
    return [i for i in lst if isinstance(i, int)]
```

Examples:

python
```
print(filter_list([1, 2, 3, "a", "b", 4])) # [1, 2, 3, 4]
print(filter_list(["A", 0, "Edabit", 1729, "Python", "1729"])) # [0, 1729]
print(filter_list(["Nothing", "here"])) # []
```

Question 2

Here is a function `add_indexes()` that takes a list of numbers and returns a new list where each element is the sum of the original element and its index in the list.

python
```
def add_indexes(lst):
    return [i+lst[i] for i in range(len(lst))]
```

Examples:

python
```
print(add_indexes([0, 0, 0, 0, 0])) # [0, 1, 2, 3, 4]
print(add_indexes([1, 2, 3, 4, 5])) # [1, 3, 5, 7, 9]
print(add_indexes([5, 4, 3, 2, 1])) # [5, 5, 5, 5, 5]
```

Question 3

Here is a function `cone_volume()` that takes the height and radius of a cone as arguments and returns the volume of the cone rounded to the nearest hundredth.

python
```
import math

def cone_volume(h, r):
    return round((math.pi * r ** 2 * h) / 3, 2)
```

Examples:

python
```
print(cone_volume(3, 2)) # 12.57
print(cone_volume(15, 6)) # 565.49
print(cone_volume(18, 0)) # 0
```

Question 4

Here is a function `triangle()` that takes a number `n` and returns the nth number in the Triangular Number Sequence.

python
```
def triangle(n):
    return (n * (n + 1)) // 2
```

Examples:

python
```
print(triangle(1)) # 1
print(triangle(6)) # 21
print(triangle(215)) # 23220
```

Question 5

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

python
```
def missing_num(lst):
    return sum(range(1,11)) - sum(lst)
```

Examples:

python

```
print(missing_num([1, 2, 3, 4, 6, 7, 8, 9, 10])) # 5
print(missing_num([7, 2, 3, 6, 5, 9, 1, 4, 8])) # 10
print(missing_num([10, 5, 1, 2, 4, 6, 8, 3, 9])) # 7
```