1. def filter\_list(in\_list):

out\_list = []

for ele in in\_list:

if type(ele) == int:

out\_list.append(ele)

print(f'Output ➞ {out\_list}')

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

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

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

Output:

Output ➞ [1, 2, 3, 4]

Output ➞ [0, 1729]

Output ➞ []

1. def add\_indexes(in\_list):

out\_list = []

for ele in range(len(in\_list)):

out\_list.append(ele+in\_list[ele])

print(f'{in\_list} ➞ {out\_list}')

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

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

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

Output:

[0, 0, 0, 0, 0] ➞ [0, 1, 2, 3, 4]

[1, 2, 3, 4, 5] ➞ [1, 3, 5, 7, 9]

[5, 4, 3, 2, 1] ➞ [5, 5, 5, 5, 5]

1. import math

def cube\_volume(height, radius):

output = ((math.pi)\*pow(radius,2))\*(height/3)

print(f'Output ➞ {output:.2f}')

cube\_volume(3,2)

cube\_volume(15,6)

cube\_volume(18,0)

Output:

Output ➞ 12.57

Output ➞ 565.49

Output ➞ 0.00

1. def triangle(in\_num):

print(f'Output ➞ {int((in\_num)\*((in\_num+1)/2))}')

triangle(1)

triangle(6)

triangle(215)

Output:

Output ➞ 1

Output ➞ 21

Output ➞ 23220

1. def missing\_num(in\_list):

for i in range(1,11):

if i not in in\_list:

print(f'{in\_list} ➞ {i}')

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])

Output:

[1, 2, 3, 4, 6, 7, 8, 9, 10] ➞ 5

[7, 2, 3, 6, 5, 9, 1, 4, 8] ➞ 10

[10, 5, 1, 2, 4, 6, 8, 3, 9] ➞ 7