1. def amplify(in\_num):

out\_list = []

for ele in range(1,in\_num+1):

if ele%4 == 0:

out\_list.append(ele\*10)

else:

out\_list.append(ele)

print(f'{in\_num} ➞ {out\_list}')

amplify(4)

amplify(3)

amplify(25)

Output:

4 ➞ [1, 2, 3, 40]

3 ➞ [1, 2, 3]

25 ➞ [1, 2, 3, 40, 5, 6, 7, 80, 9, 10, 11, 120, 13, 14, 15, 160, 17, 18, 19, 200, 21, 22, 23, 240, 25]

1. def unique(in\_list):

out\_num = ''

for ele in set(in\_list):

if in\_list.count(ele) == 1:

out\_num = ele

print(f'{in\_list} ➞ {out\_num}')

unique([3, 3, 3, 7, 3, 3])

unique([0, 0, 0.77, 0, 0])

unique([0, 1, 1, 1, 1, 1, 1, 1])

Output:

[3, 3, 3, 7, 3, 3] ➞ 7

[0, 0, 0.77, 0, 0] ➞ 0.77

[0, 1, 1, 1, 1, 1, 1, 1] ➞ 0

1. import math

class Circle:

def \_\_init\_\_(self, radius):

self.radius = radius

def getArea(self):

print(f'Radius ➞ {round(math.pi\*self.radius\*self.radius)}')

def getPerimeter(self):

print(f'Perimeter ➞ {round(2\*math.pi\*self.radius)}')

circy = Circle(11)

circy.getArea()

circy = Circle(4.44)

circy.getPerimeter()

Output:

Radius ➞ 380

Perimeter ➞ 28

1. def sort\_by\_length(in\_list):

print(sorted(in\_list,key=len))

sort\_by\_length(["Google", "Apple", "Microsoft"])

sort\_by\_length(["Leonardo", "Michelangelo", "Raphael", "Donatello"])

sort\_by\_length(["Turing", "Einstein", "Jung"])

Output:

['Apple', 'Google', 'Microsoft']

['Raphael', 'Leonardo', 'Donatello', 'Michelangelo']

['Jung', 'Turing', 'Einstein']

1. def is\_triplet(a,b,c):

if ((a\*\*2+b\*\*2) == (c\*\*2)):

print(f'{a,b,c} ➞ {True}')

else:

print(f'{a,b,c} ➞ {False}')

is\_triplet(3, 4, 5)

is\_triplet(3, 4, 5)

is\_triplet(1, 2, 3)

Output:

(3, 4, 5) ➞ True

(3, 4, 5) ➞ True

(1, 2, 3) ➞ False