Question 1

Create a function that takes a number as an argument and returns True or False depending

on whether the number is symmetrical or not. A number is symmetrical when it is the same as

its reverse.

Examples

is\_symmetrical(7227) ➞ True

is\_symmetrical(12567) ➞ False

is\_symmetrical(44444444) ➞ True

is\_symmetrical(9939) ➞ False

is\_symmetrical(1112111) ➞ True

def is\_symmetrical(num):

currentDigit = reversedDigit = 0

remainingNum = num

while(remainingNum != 0):

currentDigit = remainingNum % 10

reversedDigit = reversedDigit \* 10 + currentDigit

print('Reveresed Digit :',reversedDigit)

remainingNum = remainingNum // 10

if reversedDigit == num:

print('Num {} is symmetrical'.format(num))

else:

print('Num {} is not symmetrical'.format(num))

is\_symmetrical(7227)

Reveresed Digit : 7

Reveresed Digit : 72

Reveresed Digit : 722

Reveresed Digit : 7227

Num 7227 is symmetrical

is\_symmetrical(12567)

Reveresed Digit : 7

Reveresed Digit : 76

Reveresed Digit : 765

Reveresed Digit : 7652

Reveresed Digit : 76521

Num 12567 is not symmetrical

is\_symmetrical(44444444)

Reveresed Digit : 4

Reveresed Digit : 44

Reveresed Digit : 444

Reveresed Digit : 4444

Reveresed Digit : 44444

Reveresed Digit : 444444

Reveresed Digit : 4444444

Reveresed Digit : 44444444

Num 44444444 is symmetrical

is\_symmetrical(9939)

Reveresed Digit : 9

Reveresed Digit : 93

Reveresed Digit : 939

Reveresed Digit : 9399

Num 9939 is not symmetrical

is\_symmetrical(1112111)

Reveresed Digit : 1

Reveresed Digit : 11

Reveresed Digit : 111

Reveresed Digit : 1112

Reveresed Digit : 11121

Reveresed Digit : 111211

Reveresed Digit : 1112111

Num 1112111 is symmetrical

Question 2

Given a string of numbers separated by a comma and space, return the product of the

numbers.

Examples

multiply\_nums('2, 3') ➞ 6

multiply\_nums('1, 2, 3, 4') ➞ 24

multiply\_nums('54, 75, 453, 0') ➞ 0

multiply\_nums('10, -2') ➞ -20

def multiply\_nums(s):

s = s.replace(' ', "")

s = s.split(',')

sum = 1

for i in s:

sum = sum \* int(i)

return sum

multiply\_nums('2, 3')

6

multiply\_nums('1, 2, 3, 4')

24

multiply\_nums('54, 75, 453, 0')

0

multiply\_nums('10, -2')

-20

Question 3

Create a function that squares every digit of a number.

Examples

square\_digits(9119) ➞ 811181

square\_digits(2483) ➞ 416649

square\_digits(3212) ➞ 9414

Notes

The function receives an integer and must return an integer.

def square\_digits(num):

z = ''.join(str(int(i)\*\*2) for i in str(num))

return int(z)

square\_digits(9119)

811181

square\_digits(2483)

416649

square\_digits(3212)

9414

Question 4

Create a function that sorts a list and removes all duplicate items from it.

Examples

setify([1, 3, 3, 5, 5]) ➞ [1, 3, 5]

setify([4, 4, 4, 4]) ➞ [4]

setify([5, 7, 8, 9, 10, 15]) ➞ [5, 7, 8, 9, 10, 15]

setify([3, 3, 3, 2, 1]) ➞ [1, 2, 3]

def setify(lst):

return list(set(lst))

setify([1, 3, 3, 5, 5])

[1, 3, 5]

setify([4, 4, 4, 4])

[4]

setify([5, 7, 8, 9, 10, 15])

[5, 7, 8, 9, 10, 15]

setify([3, 3, 3, 2, 1])

[1, 2, 3]

Question 5

Create a function that returns the mean of all digits.

Examples

mean(42) ➞ 3

mean(12345) ➞ 3

mean(666) ➞ 6

Notes

 The mean of all digits is the sum of digits / how many digits there are (e.g. mean of digits in

512 is (5+1+2)/3(number of digits) = 8/3=2).

 The mean will always be an integer.

def mean(n):

N = len(str(n))

sum = mean = 0

for digit in str(n):

sum += int(digit)

return int(sum/N)

mean(42)

3

mean(12345)

3

mean(666)

6