Question - 1

PUMKINS - Filter odd elements

INSTRUCTIONS

- We want to remove all elements located at odd index (index 1, 3, 5, 7 etc..) of an array
- Write a program to return a new array that contains only elements on odd positions from the given array.

INPUT

- An array of strings

OUTPUT

- An array without elements in odd positions of given array

EXAMPLES

INPUT	OUTPUT	EXPLANATION
['aa', 'bb', 'cc', 'dd']	['aa' , 'cc']	'bb' and 'dd' removed (indexes 1 and 3)

Question - 2

PUMKINS - Find the day of the month

You can find out the date of the month when your friend was born by asking five questions !!

Each question asks whether the day is one of the five lists of numbers.

To find this date, we define 5 lists of numbers:

list1 = [1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31]

list2 = [2, 3, 6, 7, 10, 11, 14, 15, 18, 19, 22, 23, 26, 27, 30, 31]

list3 = [4, 5, 6, 7, 12, 13, 14, 15, 20, 21, 22, 23, 28, 29, 30, 31]

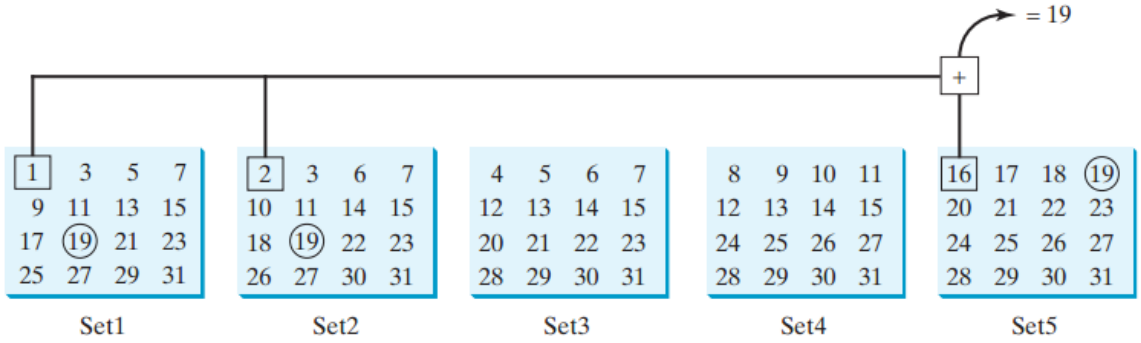
list4 = [8, 9, 10, 11, 12, 13, 14, 15, 24, 25, 26, 27, 28, 29, 30, 31]

list5 = [16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31]

The date is the **sum of the first numbers in the lists where the day appears.**

EXAMPLE

- If the birthday is 19, it appears in list1, list2, and list5.
- The first numbers in these three lists are 1, 2, and 16.
- Their sum is 19 => we found it !!



INPUT

- The results to the 5 questions : is in list1?, list2?, list3?, list4?, list5?

OUTPUT

- The day of the month

EXAMPLE

INPUT	OUTPUT	EXPLANATION
true true false false true	19	Given the booleans the numbers should be is in list1 and list2 and list5 So we sum the first elements of list1 and list2 and list5: 1 + 2 + 16 = 19

Question - 3

PUMKINS - Harry, The Vampires, And The Magic Potions

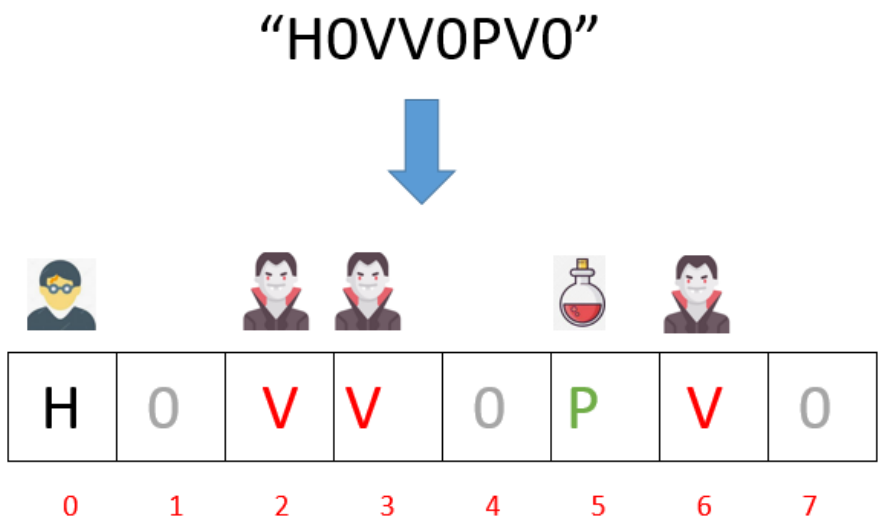
Harry needs to go from left to right on a road.... But there are many vampires... and he has only 2 lives !!

We represent the road with a string : each character is a step of the road
"H" where is Harry

"0" there is nothing on this step

"V" there is a vampire on this step

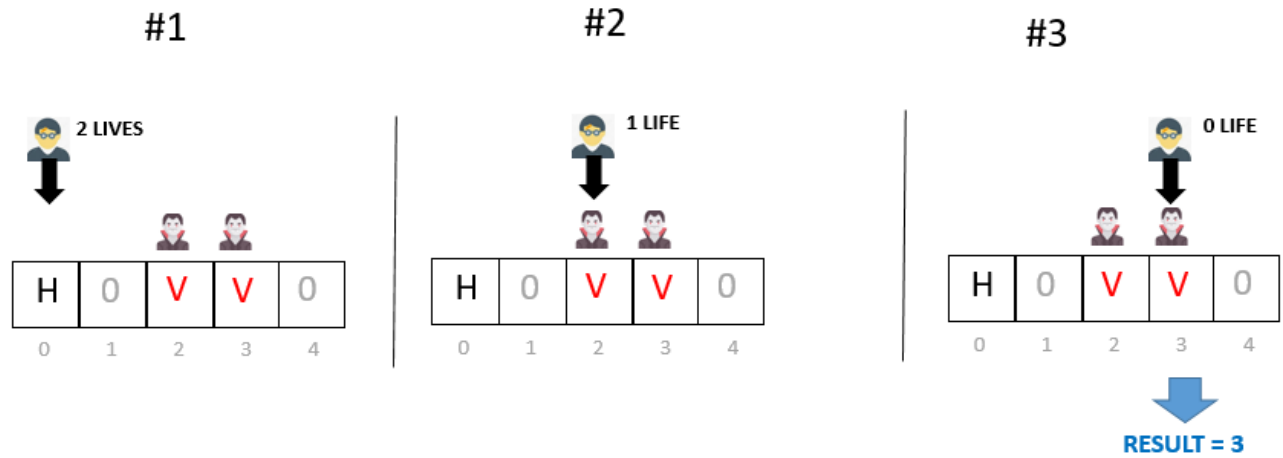
"P" there is a magic potion on this step



Harry has 2 lives at the beginning

Harry moves from left to right on the road:

- if a potion (P) is on the step, Harry gets a new life
- if a vampire (V) is on the step, Harry looses a new life
- if Harry dies, we print the position where he died
- if Harry survives, we print the last index



INPUT

- a string composed of: Harry(P), and the different elements on his way: vampire (V), nothing (0), option (P)

OUTPUT

- a number: position of harry at the end of the game

EXAMPLE

INPUT	OUTPUT	EXPLANATION
H000	3	No vampire, no potion, harry just goes to the end: 000H
HVV0	2	2 vampires, no potion - first step on right = vampire, harry lose 1 life - second step on right = vampire, harry lose 1 life => no more life! Harry dies at position 2: 00H0
HP0VV00	6	2 vampires, 1 potion -first step on right = potion, harry get 1 new life -Harry will lose 2 life but he has 3 live with the potions harry just go to the end: 000000H So Harry is at position 6 at the end