

Name, Surname. :

ACM 114 Introduction to Computer Science and Programming
2017-2018 SPRING Make-up

Given the code below

```
from random import gauss
from random import seed
seed(1)
series = [gauss(0.0, 1.0) for i in range(1000)]
```

Q-1) (30) Write a function which calculates the mean of the list named as series.

Mean is mathematically defined as (where x_i denotes the i th element of the above mentioned list and N denotes size of the list):

$$\langle x \rangle = (1/N) (\sum_{i=0}^n x_i) = (x_0 + x_1 + \dots + x_n) / N$$

Print out the mean of the series.

Q-2) (30) Given the formula

$$x(k) = \sum_{i=1}^k [x_i - \langle x \rangle]$$

write a function which calculates and returns $x(k)$

Q-3) (40) Write function which takes list as an argument and calculates the $x(k)$ for each element of the series, stores them in a new list and returns that list.

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Good Luck.

