15-112, Spring 2015

Quiz 5

Submission

You must submit one (and only one) python file on Autolab. This python file must be named *userid*-quiz5.py and must include all of the code that you have written for this assignment. Please write your name and userid as a comment at the beginning of each Python file. All of your test cases must be commented but not the functions.

Recommendations

- **Make sure to test your program**.
- Make sure that your program is executable. If you are unable to complete portions of the quiz, comment out the part of the code that does not work properly, and explain what you did, what worked, and what did not. It is your responsibility to explain as carefully as you can why you think you were unable to get the code working, what you think is wrong, and how you might go about fixing it. The quality of such an explanation will be important to us in deciding whether to give you partial credit.
- You can reuse any piece of code developed in class and assignments.

1 Stock Market

The company *Qatar One* has recently been introduced to the Qatar Stock Exchange. *Qatar One* is asking for your help to analyze the evolution of its share price. *Qatar One* gives you a record of the daily share price since they have been introduced to the stock market. A record is given as a `list of numbers`. The number of values in a record is not fixed. The introduction price is the first value of the list.

1.1 The average [15 points]

Write a function `average(record)` that takes a `record` (as a `list of numbers`) and returns the average share price since it has been introduced to the market (as a `number`).

For instance, `average([120,115,118,125,128,130,126,127,122,119,115])`

returns `122`

1.2 The red zone [15 points]

Write a function `redzone(record)` that takes a `record` (as a `list of numbers`) and returns the number of times the share price was lower than its introduction price (as a `number`).

For instance `redzone([120,115,118,125,128,130,126,127,122,119,115])`

returns `4`

1.3 The variation [20 points]

Write a function `variation(record)` that takes a `record` (as a `list of numbers`) and returns a list of the price differences between two consecutive days (as a `list of numbers`).

For instance `variation([120,115,118,125,128,130,126,127,122,119,115])`

returns `[-5, 3, 7, 3, 2, -4, 1, -5, -3, -4]`