

SchoolNova Computer Science 202
Homework 13 (due 1/17/2021)

Save your code as `lastname_homework13.py` and submit on Google Classroom

Task 1

Consider the Greed Control problem from <https://cmimcprogramming.org/sample-problems>. You will need to write a Python function, which takes a state as input, and returns an integer from 0 to 10. The state is a list of the numbers that other players picked in the previous round. If this is the first round, the list will be empty. The order of your opponents within the array will remain consistent.

Please, create an easily recognizable name for your function since I will use your functions in our own internal competition. (I will submit two functions: `randhigh()` and `adapt()`, which you can find in the previously posted classwork 12 notes).

Notice that you can test the performance of your function in a competition with a set of sample functions using the classwork 12 code.

Task 2

Consider a new competition. Each player (AI) picks a number between 0 and 100. The player who picks a number *closest to half the average* of all numbers wins. For example, if 3 players picked 20, 30, and 40, then half the average is $(20 + 30 + 40)/3 * 0.5 = 15$. The player who's number is closest to 15 wins.

Once again: You will need to write a Python function, which takes a state as input, and returns an integer from 0 to 100. The state is a list of the numbers that other players picked in the previous round. If this is the first round, the list will be empty. The order of your opponents within the array will remain consistent.

Please, create an easily recognizable name for your function since I will use your functions in our own internal competition. I will submit a function for this competition as well.