

CS Homework #18

Deadline: February 27th, 9:00 pm.

- *Save your code as `lastname_homework18.py` and submit on Google Classroom.*
- *Please, run your code before submitting.*
- *If you get an error, try to fix it before submitting your homework.*
- *If you get help from anyone, please, make sure that you actually understand the solution.*

Task 1

Create a user-defined function that takes a numerical value (an integer) and returns a string “even” if the value is even and “odd” if the value is odd.

Task 2

Consider a list X, which is a list of numbers from 0 to 5,000,000.

- 1) Using your user defined function above and a for loop generate a list Y based on the elements of X.

Task 3

Following the classwork approach, repeat the same task using:

- 2) Lambda function in a for loop.
- 3) Map() with user-defined function.
- 4) Map() with lambda function.
- 5) List comprehension with user-defined function.
- 6) List comprehension with function inside the brackets.

Task 4

Examine which approach is the fastest (see the posted file `classwork18_Feb21_map_comprehensions_speed_tests.py` if you need help).