

# OOP-LAB12

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## SETUP

1. Move this folder(oop-lab12) into oop-python-nycu.
2. Follow the command below.

```
cd ~/oop-python-nycu
source Docker/cpu/docker_run.sh
source colab_jupyter.sh
```

3. Then click ther site; passwd is "assistive".
4. Start edit the file"oop-python-nycu/oop-lab12/oop\_lab12.ipynb"

## ELO equation

$$E_A = \frac{1}{1 + 10^{(R_B - R_A)/400}} \quad R'_A = R_A + K(S_A - E_A).$$

EA: Expected score for Player A. This represents the probability that Player A will win against Player B.

RA: Current rating of Player A.

RB: Current rating of Player B.

RA': New rating for Player A after the match.

RA: Current rating of Player A before the match.

K: K-factor, a constant that determines the maximum possible adjustment per game. Higher values of K result in more significant changes in ratings.

SA: Actual score for Player A in the match. This can be 1 for a win, 0.5 for a draw, and 0 for a loss.

EA: Expected score for Player A, as calculated in the first equation.

## LABs

See the description in the code (oop\_lab12.ipynb).