Presentation for Assignment 5

Implementation of Heuristic Algorithm for Board Games

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Group 3

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Exercise 1

We estimate the time the next depth will take by:

- Calculating an average branching factor
- multiplying it with the time the last depth took
- checking whether we have that time available.

Exercise 2

Aspiration window

We implemented the aspiration window algorithm such that:

- We calculate depth 1 for alpha beta with Double.MAXVALUE / Double.MINVALUE as bounds
- Every following calculation uses the alpha from the last calculation as a guess.
- a window size of 5 is added/substracted to define the bounds.

Exercise 3

Window Size

good windowsize of 5
We let versions of our AI with different windowsizes play against each other.
A window size of 5 lead to few restarts of the calculation but still pruned away enough states compared to alpha/beta on its own.
Next Step: Improve heuristic, when making it more complicated a dynamic windowsize will probably be more functional.