**Multithreading analysis report**

1. Introduction

For the purpose of this experiment, I’ve generated random data of 1200 players, where each of them has 2500 games in their history. In the experiment for each game I calculate a metric called “Game Score” which is than normalized to a value between 1 and 5 against scores of all games of all players.

Test were conducted on my personal computer, with Intel i7-9700k 8 core 8 thread processor, 16GB 3200Mhz DDR4 RAM and running Windows 10.

1. Results



Fig 1. Table containing measurements of time execution for different amounts of threads

Fig 2. Plot of time execution vs number of threads for scenarios with 600 players and 1200 players.

1. Conclusions

Concluding the result the performance benefit of multithreading is clearly visible, especially when the amount of the data ( and subsequently operations) is very high, and the most significant benefits can be seen between sequence processing and parallel processing with 2 threads. The higher the amount of threads become, the lower the additional performance benefit is.