Report

Part 1: Collaborative filtering

There are two codes for collaborative filtering:

1. collaborative_filtering_full.py
   Predicting ratings using the whole data (going over all possible users)
2. collaborative_filtering_top_n.py
   Predicting ratings using top ‘n’ users (where n is passed as an argument to the code)

The first code takes up more memory as compared to the second one and is faster. (First code might not work with systems having low memory)
The second code takes up less memory but is slower as compared to the first code.

RMSE obtained for code 1:
collaborative_filtering_full = 0.94079

RMSE obtained for code 2:
collaborative_filtering_top_n = 0.91811 (n = 500)
= 0.91715 (n = 100)

MAE obtained for code 1:
collaborative_filtering_full = 0.746088

MAE obtained for code 2:
collaborative_filtering_top_n = 0.724039 (n = 500)
= 0.72325 (n = 100)