Collaborative Filtering [CSE640]
Assignment 1 Report

Name: Yash Bhargava
Roll no: 2019289

User Based MAE

	k=10	k=20	k=30	k=40	k=50
Fold 1	0.7713602757240536	0.7423939362038109	0.7330333126422512	0.7277948717948718	0.7253671970624235
Fold 2	0.7642587660896583	0.7364601956041644	0.7187548397088431	0.7157690143726664	0.7118557751069464
Fold 3	0.7697211597095183	0.7384293193717277	0.7249124253039357	0.7166888229880356	0.7100895947872123
Fold 4	0.7590572759660181	0.7283227930800188	0.7159020777617774	0.7116739863139618	0.7098348157560356
Fold 5	0.7679658952496955	0.7340319622740372	0.7256031688872885	0.7176188288150304	0.7123461812264823
Average	0.7664726745	0.7359276413	0.7236411649	0.7179091049	0.7138987128

User Based MAE (with significance weighting)

	k=10	k=20	k=30	k=40	k=50
Fold 1	0.771582633831786	0.7430782187598695	0.7333954065797641	0.7301538461538462	0.7273051815585475
Fold 2	0.7645361739902352	0.7379850667788411	0.7204067936606268	0.7160759040458289	0.7137400692605419
Fold 3	0.7697211597095183	0.7398952879581152	0.726869977333608	0.7172512526843235	0.7118713093056404
Fold 4	0.7590024664291587	0.7297339674907228	0.7172906809298498	0.7138188131957921	0.7141550190597205
Fold 5	0.7674122467057911	0.7335603877390621	0.7260661556664437	0.7176698830857201	0.7138208074849995
Average	0.7664509361	0.7368505857	0.7248058028	0.7189939398	0.7161784773

Item Based MAE

	k=10	k=20	k=30	k=40	k=50
Fold 1	0.7391526869 491043	0.7187615967 767588	0.7051481251 2948	0.6960016382 532125	0.6896358828 315704
Fold 2	0.7269972451 790634	0.6996547756 041427	0.6875868100 210916	0.6870256227 395446	0.6865883306 320908
Fold 3	0.7219198416 625433	0.7012993790 11637	0.6929352008 619363	0.6888922795 239548	0.6877372336 656713
Fold 4	0.7227924944 812362	0.6963408259 27862	0.6864480930 567708	0.6829603955 349406	0.6831964303 823141
Fold 5	0.7325640590 531138	0.7114561876 089368	0.7016700274 029264	0.6948294379 379123	0.6910606291 609493
Average	0.728685265 5	0.705502553	0.694757651 3	0.689941874 8	0.687643701 3

Item Based MAE (with variance weighting)

	k=10	k=20	k=30	k=40	k=50
Fold 1	0.7448011674 571324	0.7228413020 804743	0.7067259353 336508	0.6961710075 749714	0.6895876288 659794
Fold 2	0.7322848664 688427	0.7017743156 983663	0.6890911003 576689	0.6872702800 641921	0.6862805504 21031
Fold 3	0.7245930232 55814	0.7030654426 370323	0.6930259245 735747	0.6887628865 979382	0.6870244599 908083
Fold 4	0.7266391021 854696	0.6990317667 536988	0.6871827079 080965	0.6834588016 912447	0.6839245437 76912
Fold 5	0.7365561523 738964	0.7123983185 019381	0.7020305367 542893	0.6949415537 395263	0.6905847983 188971
Average	0.732974862 3	0.707822229 1	0.695611241	0.690120905 9	0.687480396 3