Assignment 5 Report

We used stratified k fold to use different amount of data for training.

1) 2-fold

	Fold 1	Fold 2	Mean	Std
MAE (testset)	0.7244	0.7238	0.7241	0.0003
RMSE (testset)	0.9232	0.9229	0.9230	0.0002
Fit time	67.13	60.41	63.77	3.36
Test time	8.16	4.66	6.41	1.75

2) 5-fold

	Fold 1	Fold 2	Fold 3	Fold 4	Fold 5	Mean	Std
MAE (testset)	0.6983	0.7019	0.6975	0.6999	0.6996	0.6994	0.0015
RMSE (testset)	0.8918	0.8966	0.8920	0.8936	0.8948	0.8938	0.0018
Fit time	119.89	128.75	125.12	117.88	67.79	111.89	22.38
Test time	3.97	6.19	3.80	3.80	2.02	3.95	1.33

3) 8-fold

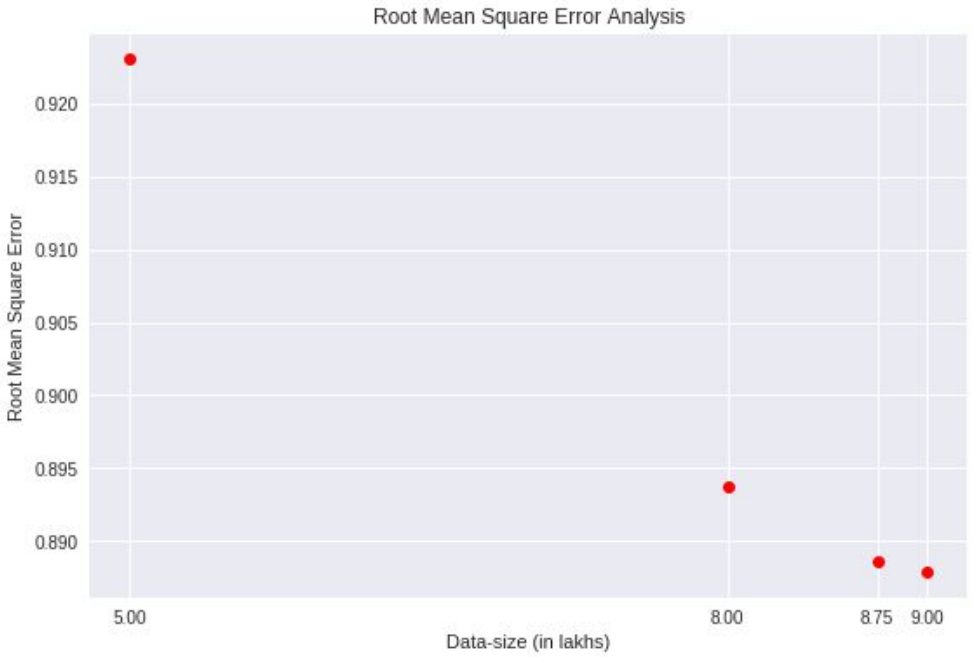
	Fold 1	Fold 2	Fold 3	Fold 4	Fold 5	Fold 6	Fold 7	Fold 8	Mean	Std
MAE (testset)	0.6922	0.6932	0.6919	0.6952	0.6965	0.6948	0.6986	0.6963	0.6948	0.0022
RMSE (testset)	0.8863	0.8869	0.8847	0.8884	0.8894	0.8887	0.8933	0.8909	0.8886	0.0025
Fit time	126.65	140.62	136.22	144.93	141.41	148.31	124.31	91.62	131.76	17.07
Test time	2.83	3.88	2.31	2.34	2.66	2.68	2.70	1.39	2.60	0.65

4) 10-fold

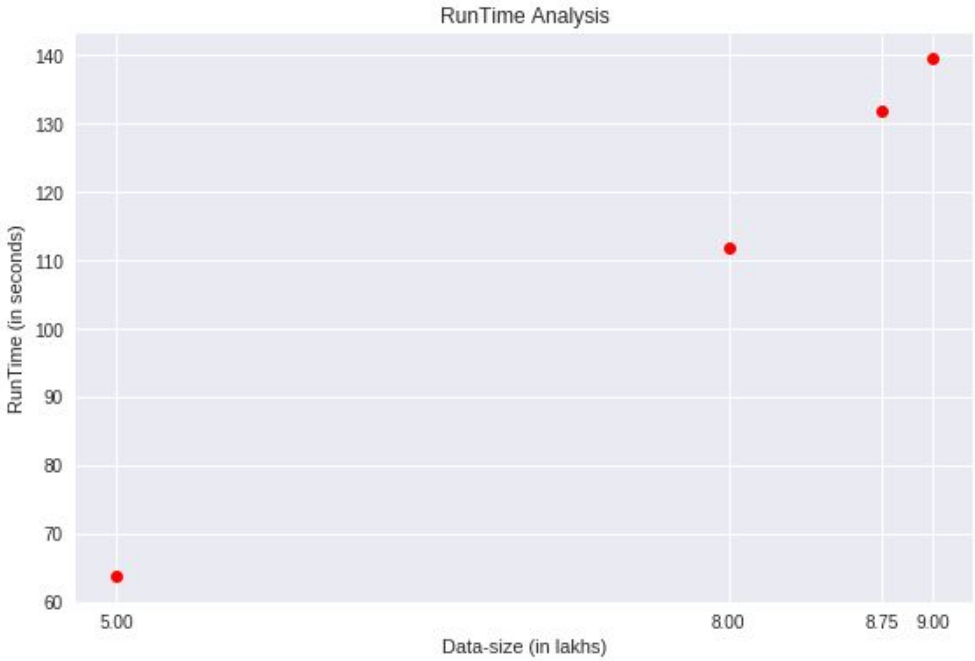
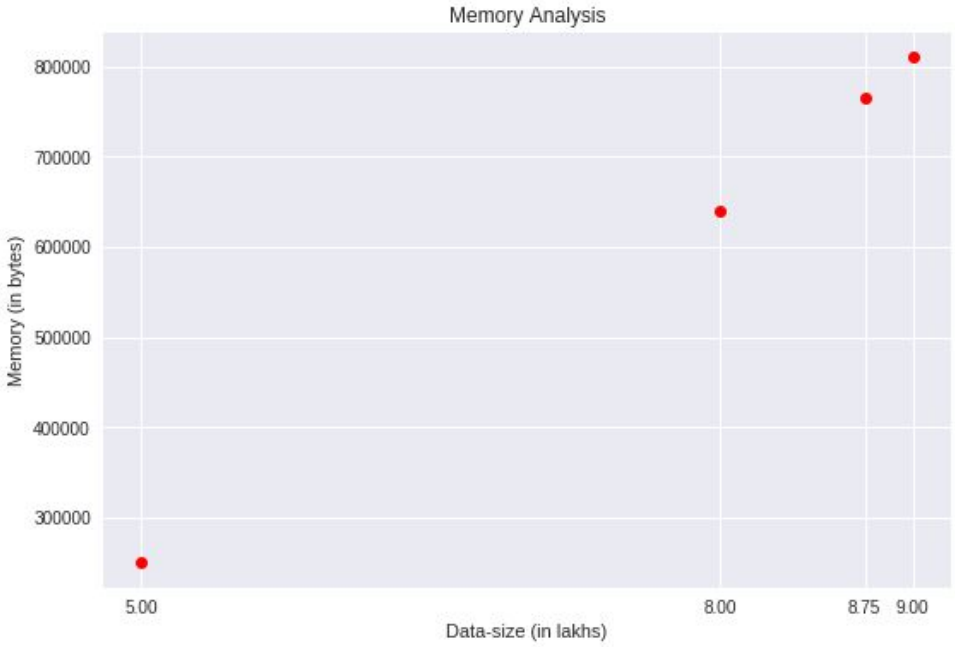
	Fold 1	Fold 2	Fold 3	Fold 4	Fold 5	Fold 6	Fold 7	Fold 8	Fold 9	Fold 10	Mean	Std
MAE (testset)	0.6952	0.6946	0.6933	0.6910	0.6960	0.6945	0.6981	0.7003	0.6951	0.6897	0.6948	0.0029
RMSE (testset)	0.8877	0.8871	0.8870	0.8829	0.8897	0.8864	0.8914	0.8945	0.8891	0.8831	0.8879	0.0033
Fit time	133.45	139.46	143.34	146.70	146.66	152.72	147.95	150.19	132.59	101.40	139.45	14.19
Test time	2.19	2.48	2.37	2.93	2.12	2.14	2.10	2.09	2.09	1.23	2.17	0.40

After performing Stratified k-fold(with varying values of k) we analysed the following things-

a) **Root Mean Square Error**



b) **Runtime**



c) Memory Utilization