Q 4.) **Analysis:**

For **Digits Dataset,**

If the parameters of the Ensemble Methods are 'bootstrap = True', then it is as follows,

	Base Classifier	Ensemble	Methods	-----
Algorithms	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.866	0.961	0.963	0.841
Time Taken	0.174	6.731	7.014	7.036

If the parameters of the Ensemble Methods are 'bootstrap = False', then it is as follows,

	Base Classifier	Ensemble	Methods	-----
Algorithms	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.866	0.966	0.975	0.841
Time Taken	2.702	12.309	12.596	12.617

If the parameters of the Ensemble Methods are 'n_estimators = 100', then it is as follows,

	Base Classifier	Ensemble	Methods	-----
Algorithms	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.866	0.958	0.963	0.841
Time Taken	3.350	4.730	5.050	5.073

If the parameters of the Ensemble Methods are 'n_jobs = None', then it is as follows,

Algorithms	Base Classifier	Ensemble	Methods	-----
	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.866	0.961	0.963	0.841
Time Taken	2.904	9.274	9.584	9.604

From the analysis we can say that by having the parameter 'bootstrap = False' is having a very high and efficient performance compared to that of the remaining parameters.

For **Mammographic Mass Dataset,**

The total numbers of rows the dataset originally had were 961 rows, but after removing the missing values rows then the dataset is having 830 rows.

If the Parameters of the Ensemble Methods are 'bootstrap = True', then it is as follows,

Algorithms	Base Classifier	Ensemble	Methods	-----
	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.677	0.725	0.734	0.689
Time Taken	7.330	8.334	8.525	9.737

If the parameters of the Ensemble Methods are 'bootstrap = False', then it is as follows,

Algorithms	Base Classifier	Ensemble	Methods	-----
	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.677	0.740	0.695	0.689
Time Taken	10.932	11.942	12.100	13.109

If the parameters of the Ensemble Methods are 'n_estimators = 100', then it is as follows,

Algorithms	Base Classifier	Ensemble	Methods	-----
	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.677	0.716	0.734	0.680
Time Taken	1.876	2.091	2.279	2.497

If the parameters of the Ensemble Methods are 'n_jobs = None', then it is as follows,

Algorithms	Base Classifier	Ensemble	Methods	-----
	Decision Tree	Bagging	Random Forest	AdaBoost
Accuracy	0.677	0.725	0.734	0.689
Time Taken	7.084	7.944	8.123	9.150

From the analysis we can say that there is not much any performance change in the change of the parameters.