ALGORITHMS ACCURACY

Individual Algorithms Accuracy with all Attributes				
S.no	Algorithm	Background Details	Social Activities	Course
1	Decision Tree	0.792	0.784	0.948
2	Random Forest	0.769	0.784	0.91
3	Linear Regression	0.871	0.835	0.933
4	Gradient Boosting	0.792	0.746	0.938
5	Multilayer Perceptron	0.838	0.83	0.953

Individual Algorithms Accuracy with Important attributes		
S.no	Algorithm	Accuracy
1	Decision Tree	0.9
2	Random Forest	0.907
3	Linear Regression	0.907
4	Gradient Boosting	0.907
5	Multilayer Perceptron	0.915

Ensemble with Important Attributes		
S.no	Algorithm	Accuracy
1	Random Forest	0.937
2	Logistic Regression	0.945
3	Gradient Boosting	0.953
Averaging		0.953
Majority Voting		0.953
Weighted Average		0.953

Ensemble Trees with Important Attributes		
S.no	Algorithm	Accuracy
1	C5.0	0.961
2	Decision Tree	0.961
3	Random Forest	0.945
Averaging		**0.961**
Majority Voting		**0.961**
Weighted Average		**0.961**

⭐ IMPORTANT ATTRIBUTES

S.no	ATTRIBUTE	DESCRIPTION
1	Failures	Number of past class failures
2	Study time	Weekly study time
3	G2	Grade obtained by student
4	Higher	Wants to take higher education
5	Absences	Number of days absent for school
6	Go out	Going out with friends
7	Walc	Weekend alcohol consumption
8	Famrel	Quality of family relationships
9	Fedu	Father Education
10	Reason	To choose this school
11	Internet	Internet access at home
12	Fjob	Father Job

ELIMINATED ATTRIBUTES

S.no	ATTRIBUTE	DESCRIPTION
1	Sex	Gender of student
2	School	School of student
3	Address	Type of student's home address
4	Famsize	Size of family
5	SchoolUp	extra educational School support
6	Famsup	Educational support from family
7	guardian	Guardian of student
8	Medu	Education of mother
9	Age	Age of student
10	Traveltime	Travel time from home to school
11	Activities	Extra-curricular
12	Nursery	Nursery school attended
13	Paidclass	Extra paid classes
14	Romantic	In romantic relationship
15	Health	Status of current health
16	Freetime	Free time after school
17	G1	1st Grade Period
18	Pstatus	Cohabitation status of parent
19	Mjob	Job of mother

PAPER ACCURACY

TABLE VI.   ACCURACY OF 2-LEVEL CLASSIFICATION

		Student Background	Student Social Activities	Coursework Result	All Subsets
Naïve Bayes	Precision	0.648	**0.61**	**0.924**	0.889
	Recall	0.671	0.651	0.919	0.889
	F-Measure	0.653	0.612	0.92	0.889
Multilayer Perceptron	Precision	0.622	0.576	**0.924**	0.863
	Recall	0.625	0.575	0.919	0.863
	F-Measure	0.624	0.576	0.92	0.863
J48	Precision	**0.687**	0.595	**0.924**	**0.924**
	Recall	0.706	0.656	0.919	0.919
	F-Measure	0.681	0.587	0.92	0.92
Random Forest	Precision	0.614	0.572	**0.924**	0.894
	Recall	0.653	0.62	0.919	0.894
	F-Measure	0.616	0.583	0.92	0.894