

sports at four times the rate of boys from department of computer science.

One of Association Rule generated by Apriori method in Weka with highest lift value (1.63) indicates (Figure-1) that

students of Electronic course are showing more interest in participating in sport activity than other Courses. Another Rule generated by XLMiner (Figure-2) support this result with lift value 3.78 that male students from electronic branch strongly opted for sport-interest attribute/field.

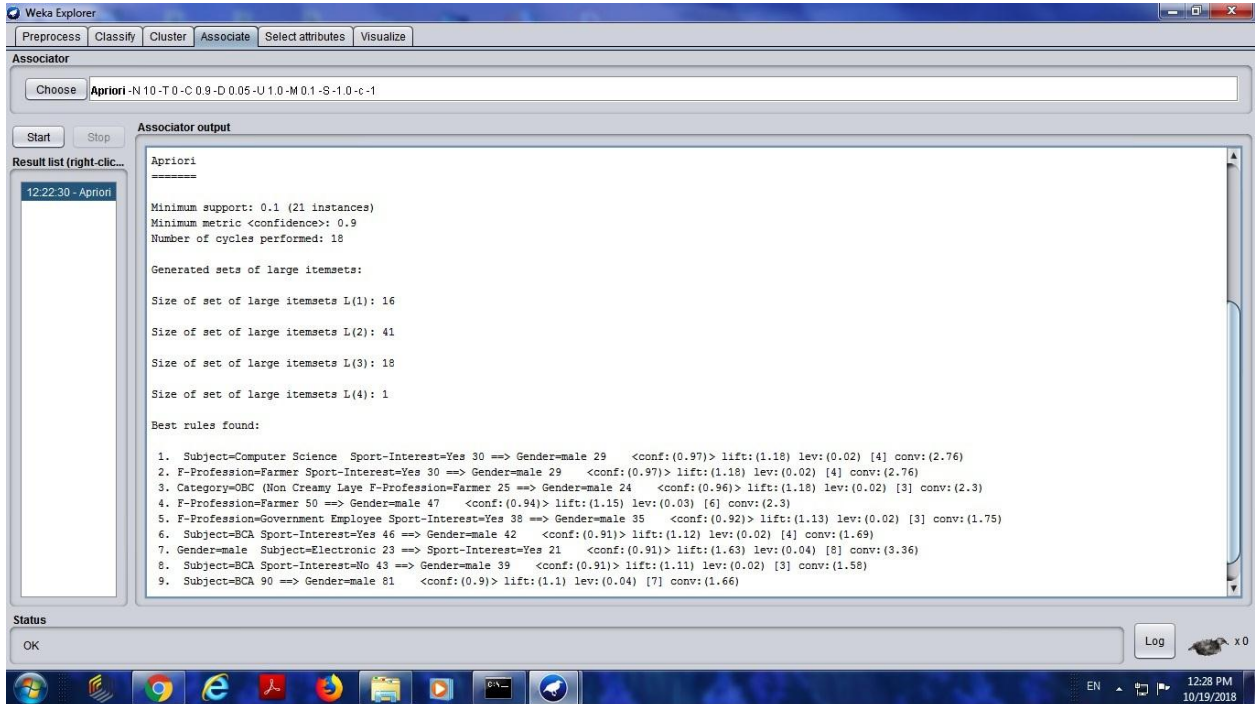


Fig. 1 Screenshot of Result Window in Wekafor Association Rule

Rule ID	A-Support	C-Support	Support	Confidence	Lift-Ratio	Antecedent	Consequent
Rule 1	27	52	20	74.07407407	0.897435897	[GEN]	[male]
Rule 2	11	27	7	63.63636364	1.484848485	[female]	[GEN]
Rule 3	27	28	17	62.96296296	1.416666667	[GEN]	[No]
Rule 4	28	27	17	60.71428571	1.416666667	[No]	[GEN]
Rule 5	13	27	8	61.53846154	1.435897436	[Business]	[GEN]
Rule 6	10	27	6	60	1.4	[Information Technology]	[GEN]
Rule 7	12	52	10	83.33333333	1.009615385	[Computer Science]	[male]
Rule 8	21	52	19	90.47619048	1.096153846	[OBC (Non Creamy Laye]	[male]
Rule 9	52	35	32	61.53846154	1.107692308	[male]	[Yes]
Rule 10	35	52	32	91.42857143	1.107692308	[Yes]	[male]
Rule 11	19	52	16	84.21052632	1.020242915	[Government Employee]	[male]
Rule 12	10	52	9	90	1.090384615	[Electronic]	[male]
Rule 13	17	52	15	88.23529412	1.069004525	[Farmer]	[male]
Rule 14	27	52	24	88.88888889	1.076923077	[BCA]	[male]
Rule 15	28	52	20	71.42857143	0.865384615	[No]	[male]
Rule 16	9	52	8	88.88888889	1.076923077	[SC]	[male]
Rule 17	19	52	14	73.68421053	0.892712551	[Bhopal]	[male]
Rule 18	13	52	10	76.92307692	0.931952663	[Business]	[male]
Rule 19	10	52	8	80	0.969230769	[Information Technology]	[male]
Rule 20	7	52	7	100	1.211538462	[Hoshangabad]	[male]
Rule 21	7	52	6	85.71428571	1.038461538	[Private Job]	[male]
Rule 22	11	52	10	90.90909091	1.101398601	[Other]	[male]
Rule 23	12	35	9	75	1.35	[Computer Science]	[Yes]
Rule 24	21	35	15	71.42857143	1.285714286	[OBC (Non Creamy Laye]	[Yes]
Rule 25	17	21	10	58.82352941	1.764705882	[Farmer]	[OBC (Non Creamy Laye]
Rule 26	19	35	13	68.42105263	1.231578947	[Government Employee]	[Yes]
Rule 27	10	35	9	90	1.62	[Electronic]	[Yes]
Rule 28	17	35	9	52.94117647	0.952941176	[Farmer]	[Yes]
Rule 29	27	35	14	51.85185185	0.933333333	[BCA]	[Yes]
Rule 30	9	35	6	66.66666667	1.2	[SC]	[Yes]

Fig. 2 Screenshot of Result Window in XLMiner for Association Rule

Another interesting and strong association found that students from the BCA course which were belongs to Science subjects did not opted the sport-interest

attribute/field while students from the BCA course which were belongs to Commerce, Arts or other subjects are opted for sport-interest attribute/field.

Some of rules generated by XLMiner and Weka tool are showing an interesting association that students whose parents are Government employee have selected the sport-interest attribute/field with Lift and Confidence value more than 1.5 and 92 % respectively.

Some of rules mined by XLMiner show that students whose parents are Farmers and belongs to OBC category also opted for sport-interest attribute with lift value 2.0.

The XLMiner generate a rule which indicate with 100% confidence that male students of computer science belonging to Hoshangabad district picked the sport-interest attribute.

Many such useful and interesting association rules are generated. These rules can be interpreted in terms of associations or correlations among various data items (attributes) of student with their sport interest attribute.

VII. CONCLUSION

This study is of course an application of educational data mining in that author has used well known Apriori algorithm of Association rule mining to analyze the student's database of Career College Bhopal. The database contains much information about their choices which they opted at the time of admission. Sport-interest is one of attribute/choice, they have been selected. This study, finds many useful relationship among various attributes of student with their sport interest. These extracted associations can be used to understand the behavior of student towards

his/her sport interest. For this study, author has used two most commonly data mining tool called Weka and XLMiner. This study can be extended to finding associations among more attributes of student database like NSS/NCC activity, Training and Placement, Student Council and other curricular activities.

REFERENCES

- [1] Sunita B. Aher, L.M.R.J. Lobo, "Data Mining in Educational System using WEKA", *International Conference on Emerging Technology Trends (ICETT)*, Proceedings published by International Journal of Computer Applications, pp. 20-25, 2011.
- [2] Elakia, Gayathri and Aarthi, J. Naren, "Application of Data Mining in Educational Database for Predicting Behavioral Patterns of the Students", *International Journal of Computer Science and Information Technologies*, Vol. 5, No. 3, pp. 4649-4652, 2014.
- [3] Abdulmohsen Algarni, "Data Mining in Education", *International Journal of Advanced Computer Science and Applications*, Vol. 7, No. 6, pp. 456-461, 2016.
- [4] Pooja M. Dhekankar, Dinesh S. Datar, "Analysis of Student Performance by using Data Mining Concept", *International Journal on Recent and Innovation Trends in Computing and Communication*, Vol. 3, No. 5, pp. 2942-2944, 2015.
- [5] Dorina Kabakchieva, "Predicting Student Performance by Using Data Mining Methods for Classification", *Cybernetics And Information Technologies*, Vol. 13, No. 1, pp. 61-72, 2013.
- [6] Mamta Gour, Sanjeev Gour, Purushottam Sharma, "Developing a Water Quality Model for Upper Lake of Bhopal Using Data Mining Methods", *International Journal of Advanced Research in Computer Engineering & Technology (IJARCET)*, Vol. 4, No. 12, pp. 4320-4324, 2015.
- [7] Shailesh Jaloree, Sanjeev Gour and Mamta Gour, "Water Quality Assessment using Association Rule Mining for River Narmada", *Indian Journal of Science and Technology*, Vol. 9, No. 10, pp. 1-5, 2016.