Maimoona Khilji
BS-DS
Semester 6

Lab Submission 09

Instructor: Basit Ali

Group Assignment

Maimoona Khilji

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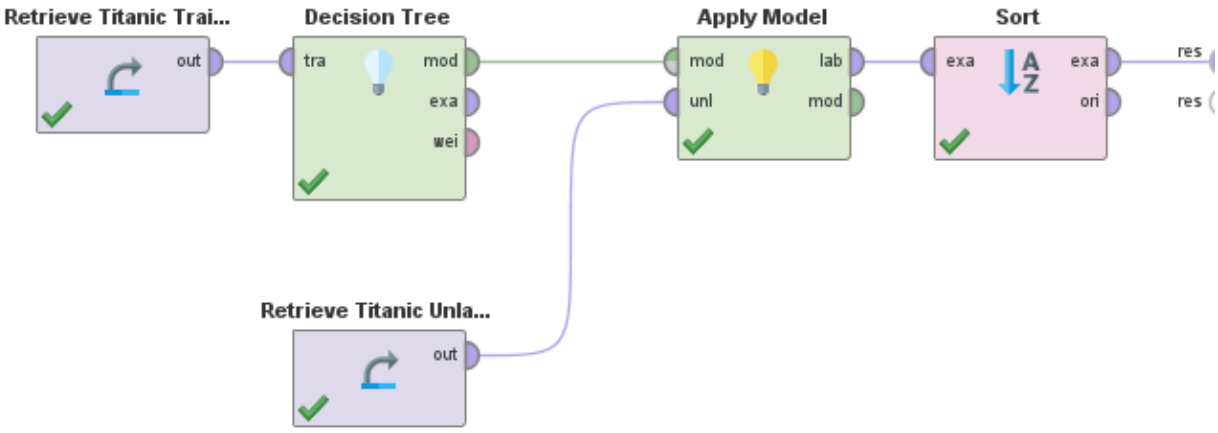
1. **Sort the data set so that it shows the cases with the highest probability of survival. What percentage of the top 10 people with the highest probability to survive is female?**

If we focus on top 10 people with high survival rate, then the percentage of both male and female is 50%. But the probability of male survival is more than females.



Row No.	prediction(Survived)	confidence(Yes)	confidence(No)	Age	Passenger ...	Sex	No of Sibling...	No of Parent...	Passenger F...
1	Yes	1	0	0.917	First	Male	1	2	151.550
2	Yes	1	0	36	First	Male	0	0	26.288
3	Yes	1	0	6	First	Male	0	2	134.500
4	Yes	1	0	0.833	Second	Male	0	2	29
5	Yes	1	0	0.333	Third	Male	0	2	14.400
6	Yes	0.971	0.029	53	First	Female	2	0	51.479
7	Yes	0.971	0.029	24	First	Female	0	0	69.300
8	Yes	0.971	0.029	47	First	Female	1	1	52.554
9	Yes	0.971	0.029	45	First	Female	0	0	262.375
10	Yes	0.971	0.029	41	First	Female	0	0	134.500

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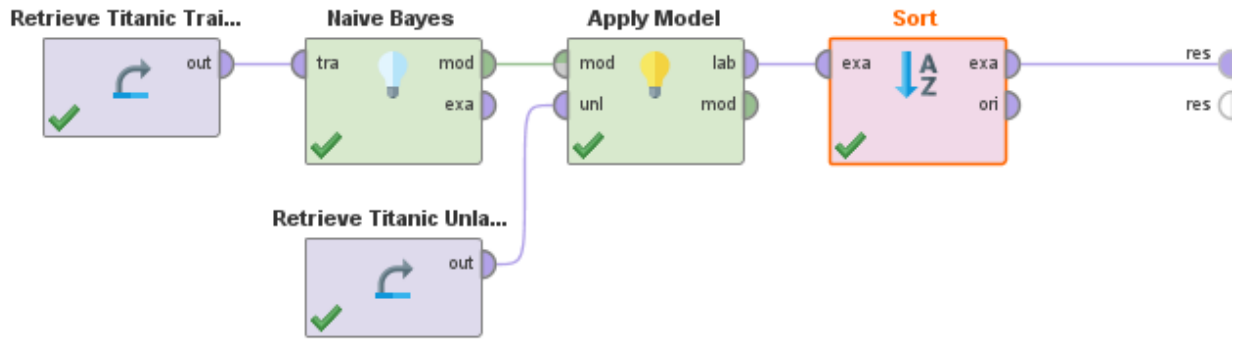
2. Replace the Decision Tree operator with Naive Bayes. Compare same 5 rows of each ML algorithm which one you think did better prediction?



Row No.	prediction(Survived)	confidence(Yes)	confidence(No)	Age	Passenger Class	Sex	No of Sibling...	No of Parent...	Passenger F...
1	Yes	1	0	58	First	Female	0	1	512.329
2	Yes	1	0	35	First	Male	0	0	512.329
3	Yes	1.000	0.000	45	First	Female	0	0	262.375
4	Yes	1.000	0.000	21	First	Female	2	2	262.375
5	Yes	1.000	0.000	27	First	Female	1	1	247.521
6	Yes	1.000	0.000	28	First	Female	3	2	263
7	Yes	1.000	0.000	38	First	Female	0	0	227.525
8	Yes	1.000	0.000	50	First	Female	1	1	211.500
9	Yes	1.000	0.000	43	First	Female	0	1	211.338
10	Yes	1.000	0.000	39	First	Female	0	0	211.338

It is concluded that the prediction of Naive Bayes is comparatively better than the Decision Tree.