

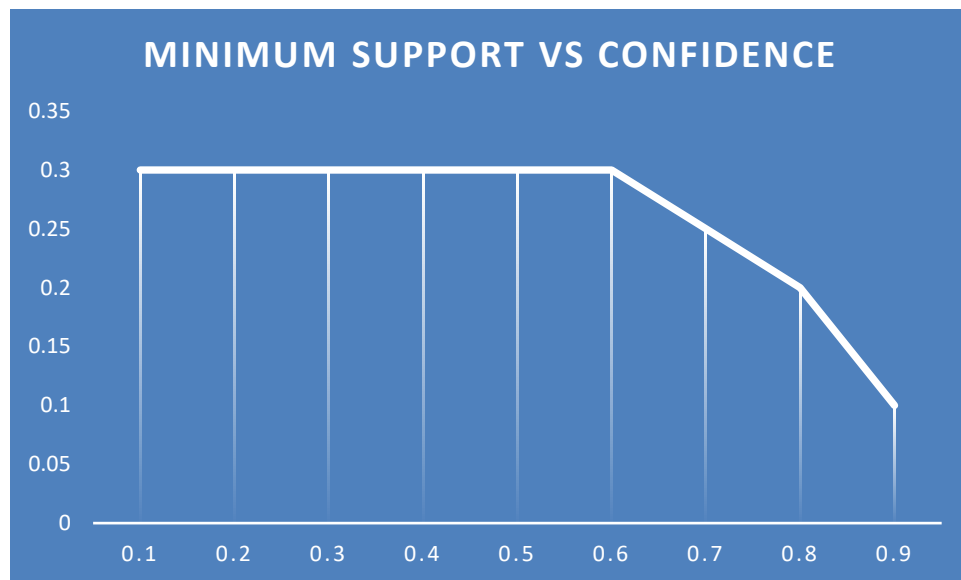
Problem 6:

a)

Best rules found:

1. biscuits=t vegetables=t 1764 ==> bread and cake=t 1487 <conf:(0.84)> lift:(1.17) lev:(0.05) [217] conv:(1.78)
2. total=high 1679 ==> bread and cake=t 1413 <conf:(0.84)> lift:(1.17) lev:(0.04) [204] conv:(1.76)
3. biscuits=t milk-cream=t 1767 ==> bread and cake=t 1485 <conf:(0.84)> lift:(1.17) lev:(0.05) [213] conv:(1.75)
4. biscuits=t fruit=t 1837 ==> bread and cake=t 1541 <conf:(0.84)> lift:(1.17) lev:(0.05) [218] conv:(1.73)
5. biscuits=t frozen foods=t 1810 ==> bread and cake=t 1510 <conf:(0.83)> lift:(1.16) lev:(0.04) [207] conv:(1.69)
6. frozen foods=t fruit=t 1861 ==> bread and cake=t 1548 <conf:(0.83)> lift:(1.16) lev:(0.05) [208] conv:(1.66)
7. frozen foods=t milk-cream=t 1826 ==> bread and cake=t 1516 <conf:(0.83)> lift:(1.15) lev:(0.04) [201] conv:(1.65)
8. baking needs=t milk-cream=t 1907 ==> bread and cake=t 1580 <conf:(0.83)> lift:(1.15) lev:(0.04) [207] conv:(1.63)
9. milk-cream=t fruit=t 2038 ==> bread and cake=t 1684 <conf:(0.83)> lift:(1.15) lev:(0.05) [217] conv:(1.61)
10. baking needs=t biscuits=t 1764 ==> bread and cake=t 1456 <conf:(0.83)> lift:(1.15) lev:(0.04) [186] conv:(1.6)

b)



Vertical axis being minimum support and horizontal axis being confidence,

We can see that the support value decreases with the increase in confidence value after a particular threshold.

Problem 7)

a)

MODEL	RMSE
Least Squares Regression	40.39973664
Ridge Regression	40.4291367872
Lasso regression	40.5662948323

b)

Top Ten most important features are:

Column
6
52

21
5
15
55
7
9
11
10

Among 1 – 280 columns trained.