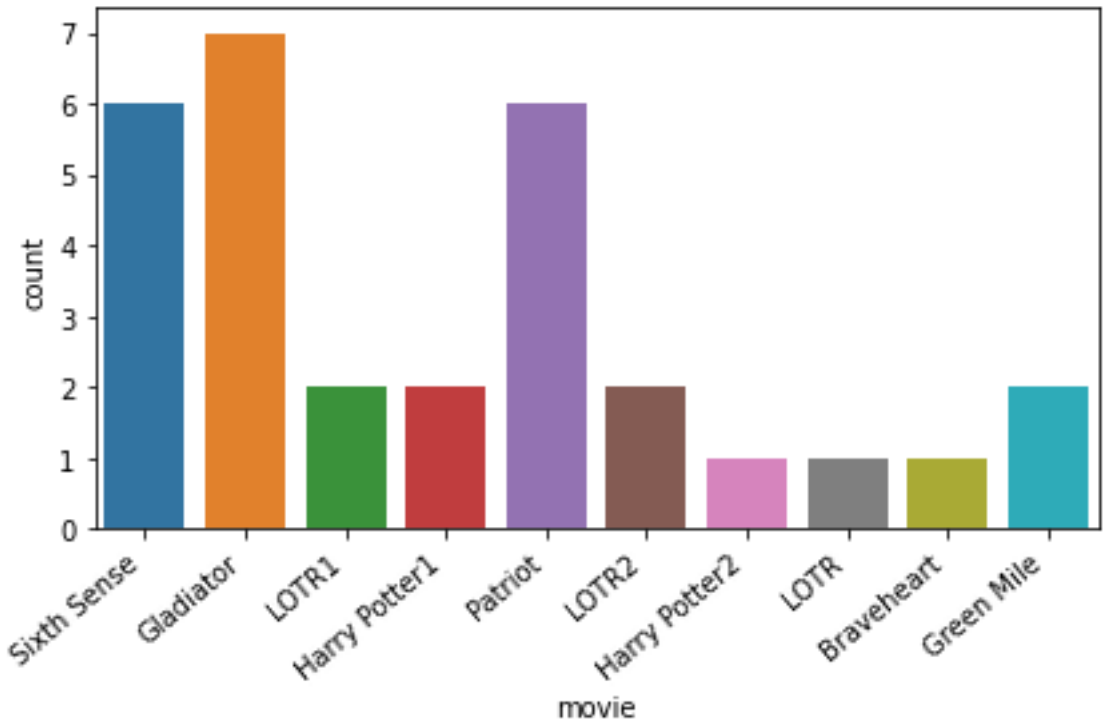
Dataset: my_movies

- Top movies by total count in transactions.

There are 15 transaction in the dataset.



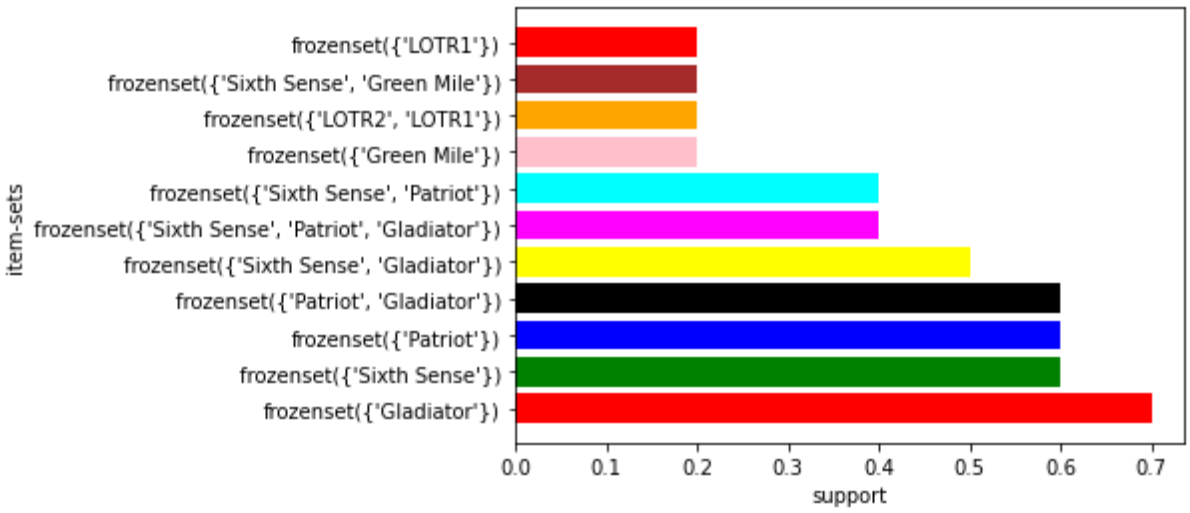
In this case ‘Galadiator’ is the most frequently occurring item.

- Association Rule on My_movies

First, the rules were generated with a support of 5%, i.e. the item in consideration should be present in at least 5% of the transactions

Top 10 frequent itemset:

support	itemsets
0.7	frozenset({'Gladiator'})
0.6	frozenset({'Sixth Sense'})
0.6	frozenset({'Patriot'})
0.6	frozenset({'Gladiator', 'Patriot'})
0.5	frozenset({'Sixth Sense', 'Gladiator'})
0.4	frozenset({'Sixth Sense', 'Patriot', 'Gladiator'})
0.4	frozenset({'Sixth Sense', 'Patriot'})
0.2	frozenset({'Green Mile'})
0.2	frozenset({'LOTR2', 'LOTR1'})



Frequent itemsets are the ones which occur at least a minimum number of times in the transactions. Technically, these are the itemsets for which support value (fraction of transactions containing the itemset) is above a minimum threshold (min_support = 0.05).

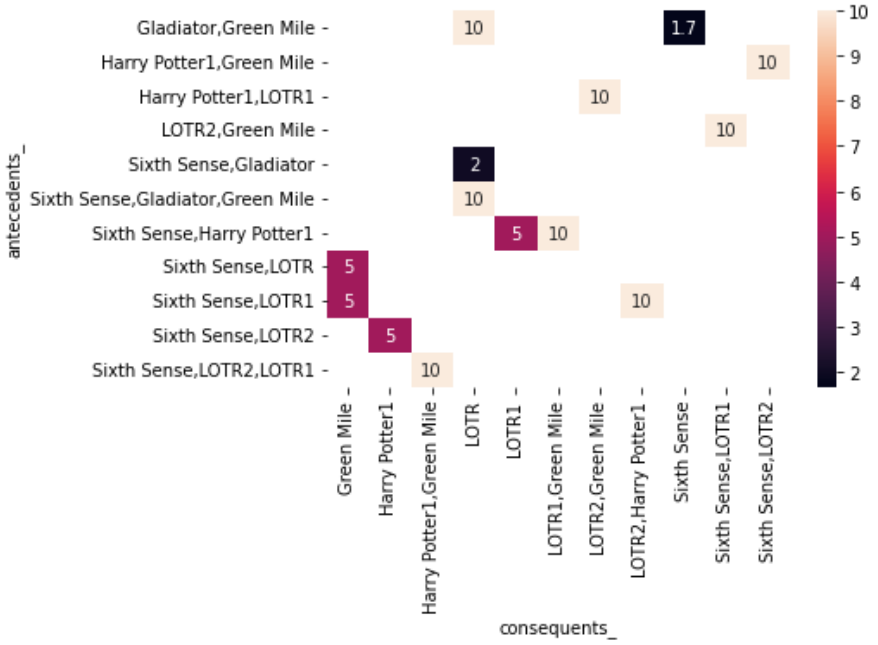
- 70 percent of 100 purchases are "Gladiator"
- 60 percent of 100 purchases are "Sixth Sense"
- 60 percent of 100 purchases are "Patriot"
- 60 percent of 100 purchases are "Patriot, Gladiator"

Rules after applying lift ratio

Index	antecedents	consequents	edent su	quent su	support	onfidenc	lift	leverage	onvictior
164	frozenset({'Sixth Sense', 'LOTR1'})	frozenset({'LOTR2', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
81	frozenset({'Gladiator', 'Green Mile'})	frozenset({'LOTR'})	0.1	0.1	0.1	1	10	0.09	inf
111	frozenset({'Harry Potter1', 'LOTR1'})	frozenset({'LOTR2', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
214	frozenset({'LOTR2', 'Sixth Sense', 'LOTR1'})	frozenset({'Harry Potter1', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
213	frozenset({'LOTR2', 'LOTR1', 'Green Mile'})	frozenset({'Sixth Sense', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
113	frozenset({'LOTR1', 'Green Mile'})	frozenset({'LOTR2', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
34	frozenset({'Sixth Sense', 'Harry Potter1'})	frozenset({'LOTR1', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
35	frozenset({'Sixth Sense', 'LOTR1'})	frozenset({'Harry Potter1', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
38	frozenset({'Harry Potter1', 'Green Mile'})	frozenset({'Sixth Sense', 'LOTR1'})	0.1	0.1	0.1	1	10	0.09	inf
39	frozenset({'LOTR1', 'Green Mile'})	frozenset({'Sixth Sense', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
84	frozenset({'LOTR'})	frozenset({'Gladiator', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf

From the above snapshot, we can say that any cart consisting ‘ Sixth Sense’ and ‘LOTR1’ would likely have ‘LOTR2 and ‘Harry Potter’ too with 100% confidence.

Data Visualization for Association Rules



From the above image we can see some possibilities of given antecedents what would the consequents be. For example, {Gladiator, Green Mile} → LOTR.

This can help in many ways, one of which is demand planning / product placements in the store.

Next, the rules were generated with a support of 0.05%, i.e. the item in consideration should be present in at least 0.05% of the transactions.

antecedents	consequents	edent su	quent su	support	onfidenc	lift	leverage	onviction
frozenset({'Sixth Sense', 'LOTR1'})	frozenset({'LOTR2', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'Gladiator', 'Green Mile'})	frozenset({'LOTR'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'Harry Potter1', 'LOTR1'})	frozenset({'LOTR2', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'LOTR2', 'Sixth Sense', 'LOTR1'})	frozenset({'Harry Potter1', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'LOTR2', 'LOTR1', 'Green Mile'})	frozenset({'Sixth Sense', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'LOTR1', 'Green Mile'})	frozenset({'LOTR2', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'Sixth Sense', 'Harry Potter1'})	frozenset({'LOTR1', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'Sixth Sense', 'LOTR1'})	frozenset({'Harry Potter1', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'Harry Potter1', 'Green Mile'})	frozenset({'Sixth Sense', 'LOTR1'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'LOTR1', 'Green Mile'})	frozenset({'Sixth Sense', 'Harry Potter1'})	0.1	0.1	0.1	1	10	0.09	inf
frozenset({'LOTR'})	frozenset({'Gladiator', 'Green Mile'})	0.1	0.1	0.1	1	10	0.09	inf

Compared to the previous set of rules generated, there are no change in antecedence and consequences due to small size of dataset. The confidence is already 100% for support of minimum 5%.