

## HW9 Q1

The given python code gives us various association rules for minimum support of 0.3 with their respective confidence.

To recommend a movie, we will use confidence values.

If for any rule, the confidence 1 is the highest.

For example, For the rule Frozen -> Captain America; The confidence is 1, which means if a user has watched Frozen, he has always watched Captain America.

For these rules, we would recommend following movies to each user:

**User 1:** Movies watched- Captain America, Non-Stop, The Wolf of Wall Street

Recommended: Frozen and 300;

Here, for user 1 we get 2 rules but for both the confidence is the same.

0.5 Captain America -> Frozen

0.5 Non-Stop -> 300 Rise of an Empire

We will always recommend a movie with highest confidence.

**User 2:** Movies watched -Non-Stop, 300 Rise of an Empire, THOR

Recommended: The Wolf of Wall Street, Captain America

Here, for user 2 we get 2 rules but for both the confidence is the same.

0.5 Non-Stop -> The Wolf of Wall Street

0.5 Non-Stop -> Captain America

Again, here both have the same/highest confidence.

**User 3:** Movies watched- Captain America, Frozen

Recommended movies: Non-stop, The wolf of the wall street.

Here, for user 3 we get 2 rules but for all the confidence is the same.

0.5 Captain America -> The Wolf of Wall Street

0.5 Captain America -> Non-Stop

Again, both rules has same/highest confidence.

**User 4:** movies watched: Captain America, Non-Stop, 300 Rise of an Empire

Recommended movies: Frozen, The wolf of the wall street.

Here, for user 4 we get 3 rules but for all the confidence is the same.

0.5 Captain America -> Frozen

0.5 Non-Stop -> The Wolf of Wall Street

0.5 Captain America -> The Wolf of Wall Street

Here Non-stop and CA, both implies to The wolf of the wall street for same confidence value.

**User 5:** Movies watched- Captain America, The Wolf of Wall Street, Frozen

Recommeneded :Non-stop

Here, for user 5 we get 2 rules but for all the confidence is the different.

0.7 The Wolf of Wall Street -> Non-Stop

0.5 Captain America -> Non-Stop

Both rules suggest Non-stop but we will choose it from the rule The wolf of wall street->Non-stop because of has highest confidence.

**User 6:** Movies watched- Non-Stop, The Wolf of Wall Street

Recommended: Captain America

Here we get 3 rules.

0.5 Non-Stop -> 300 Rise of an Empire

0.7 The Wolf of Wall Street -> Captain America

0.5 Non-Stop -> Captain America

We recommend CA, from the rule The Wolf of Wall Street -> Captain America because it has highest confidence.