Mikro II - HO10

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Exercise 1

Bertha, Charlie and Dorthe would like to enjoy a film. The options are denoted as

$$A = [Up, It, Saw]$$

(a) We derive the following preferences:

- For Bertha: $Up \succeq It$, $Saw \succeq It$
- For Charlie: $Up \succeq It$, $It \succeq Saw$ and $Saw \succeq Up$
- For Dorthe: $Saw \succeq It$, $It \succeq Saw$, $Saw \succeq Up$ and $It \succeq Up$

We notice that Bertha weakly favors Up, Charlie prefenrences enters a loop and Dorthe favours both Saw and It over Up, but has no strong favour between Saw and It.

(c) Bertha does not have complete preferences, as she is indifferent between the films Saw and Up.

(d) Charlie's preferences are not transitive, because one option does not beat the others, should they come to a vote. Therefore, her preferences enters a loop, where no film will come out on top. Because of this his preferences are not rational either.

(e) The first criteria is met as Dorthe has full information across the possible choices and full information about them. The second criteria is met as well, because she is indifferent between Saw and It, but prefers both to Up. Therefore, she has rational preferences.

f Using Bertha's preferences would be a Social Choice Function if she was elected as a "dictator", which she in this case is. Thefore, we can write the social choice function as:

$$f(\succeq_B, \succeq_C, \succeq_D) = \succeq_B^\star$$

It should be mentioned, that the Social Choice Function is not rational, as we have no information about the preferences between Up and Saw as seen in **c)**