Networked Life Homework 5

Exercise 1

1. ① = 0.5

②

Exercise 2

1. i+1
2. , the value doesn’t depend on j

Exercise 3

Yes, there is a tragedy of the commons. At equilibrium, when n = A/c, U=0.

At social optimum, when n = A/2c, U > 0 and it is maximized. As more people join the movie after social optimum, the total utility decrease.

1. Net benefit:

Exercise 4



Therefore, and

1. and ,
2. Case 1:

Case 2:

1. Case 1:

Strong player profit:

Weak player profit:

When p = MC achieves largest

Therefore, ,

Case 2:

Strong player profit:

Weak player profit:

When p = MC achieves largest

Therefore, ,

Since a<b: