

Tutorial 11. *Public Goods.*

Problem 1. And now suppose that Alfred and Ben still live in the cabins on a lake and this time they are married and have kids, so they are contemplating building a common playground for their kids. Their utilities are $U_i = \sqrt{x} + c_i$ where x is the total amount spent on the playground $x = x_A + x_B$ and c_i is the composite commodity, which is the amount of money each has left for private consumption. Suppose each has income of 5 dollars.

- (a) How much can we expect Alfred and Ben to spend at most on the playground in total?
- (b) Is the outcome in part (a) efficient? Explain.

Problem 2. Now Alfred and Ben are two students who share an apartment. For each of them the disutility from cleaning the apartment is 12 dollars and the value of having the apartment clean is 10. If they decide to clean up together, naturally they will share the cost equally. Represent this strategic situation in a normal form and find the Nash equilibrium outcome of this game. Discuss what is happening here.

If time left do problem 11 from Ch. 18 of EEA, p.637