

**Problem Set No. 3**

1. Assume there are \$100 to divide between player I and player II. Find all the subgame perfect equilibria of the ultimatum game where the proposer, player I, is confined to making proposals in whole numbers of dollars.
2. Consider the following bargaining game. Two bargainers are trying to split one pie. In period 1 player I proposes a division of the pie and player II responds either by accepting the proposal or by rejecting it. If Player II accepts, the proposed division is implemented. If he rejects the offer, **player I** makes a new (possibly the same) proposal and player II responds. Player I continues making proposals until player II accepts or the tenth period is reached, whichever comes first. If they do not agree after the ten periods, their payoffs are 0. Players' discount factors are  $\delta_1 = 0.01$  and  $\delta_2 = 0.99$ . Calculate the subgame perfect equilibrium outcome of this game and write down the strategies that the two bargainers employ in it.