**Student – Teacher Communication**

**Students**

Each “student” will read from the command line a port number *group\_port* and an integer that states if the student is the group leader (1) or not (0).

The group leader periodically (from 5 to 5 seconds) sends the message “leader” the port *group\_port* using broadcast to notify the students that he/she is the group leader.

The other students will send their questions (a string), randomly from 3 to 3 seconds to the group leader (i.e. from 3 to 3 seconds, generate a random number between 0 and 1; if it is larger than 0.5 compose a random string and send it; otherwise do nothing). You can choose if you want to use TCP or UDP for this.

The group leader will “forward” these questions to the teacher using TCP. When the teacher responds, the group leader will send the original question and the teacher’s response on the port *group\_port* using broadcast.

**Teacher**

The teacher is the “server”; **using select** and TCP communication it waits for questions from the group leaders. The group leaders know the IP and the port that the teacher listens on.

When a question is received, the sever generates the response (a string and an array of integers – the string and the values in this array should be randomly generated) and sends back the response to the group leader.

Create at least 3 groups with minimum 5 students each.