Networks Lab(2) Guess The Number

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Demo

Refer to the video attached.

Results

```
Initializing module Network.player1, stage 0
INFO: Player (1): Hello I am Player 1
INFO: Player(1): The Number is 2
INFO: Player(1): Guess My Number :D
Initializing module Network.player2, stage 0
INFO: Player (2): Hello I am Player 2
** Event #1  t=0  Network.player2 (Player2, id=3)  on Guess My Number :D (omnetpp::cMessage, id=0)
Player (2): Is it 5 ?
** Event #2  t=0  Network.player1 (Player1, id=2)  on 5 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #3  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 9 ?
** Event #4  t=0  Network.player1 (Player1, id=2)  on 9 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #5  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 8 ?
** Event #6  t=0  Network.player1 (Player1, id=2)  on 8 (omnetpp::cMessage, id=0)
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** Event #6  t=0  Network.player1 (Player1, id=2)  on 8 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #7  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 3 ?
** Event #8  t=0  Network.player1 (Player1, id=2)  on 3 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #9  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 5 ?
** Event #10  t=0  Network.player1 (Player1, id=2)  on 5 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #11  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 5 ?
** Event #12  t=0  Network.player1 (Player1, id=2)  on 5 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #13  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 0 ?
** Event #14  t=0  Network.player1 (Player1, id=2)  on 0 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #15  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
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** Event #15  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 3 ?
** Event #16  t=0  Network.player1 (Player1, id=2)  on 3 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #17  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 7 ?
** Event #18  t=0  Network.player1 (Player1, id=2)  on 7 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #19  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 5 ?
** Event #20  t=0  Network.player1 (Player1, id=2)  on 5 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #21  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 6 ?
** Event #22  t=0  Network.player1 (Player1, id=2)  on 6 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #23  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 7 ?
** Event #24  t=0  Network.player1 (Player1, id=2)  on 7 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
```

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** Event #25  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 3 ?
** Event #26  t=0  Network.player1 (Player1, id=2)  on 3 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #27  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 7 ?
** Event #28  t=0  Network.player1 (Player1, id=2)  on 7 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #29  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 8 ?
** Event #30  t=0  Network.player1 (Player1, id=2)  on 8 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #31  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 0 ?
** Event #32  t=0  Network.player1 (Player1, id=2)  on 0 (omnetpp::cMessage, id=0)
INFO: Player(1): Wrong guess :(
** Event #33  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 2 ?
** Event #34  t=0  Network.player1 (Player1, id=2)  on 2 (omnetpp::cMessage, id=0)
INFO: Player(1): Right guess :)
** Event #35  t=0  Network.player2 (Player2, id=3)  on correct guess (omnetpp::cMessage, id=0)
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** Event #33  t=0  Network.player2 (Player2, id=3)  on wrong guess (omnetpp::cMessage, id=0)
Player (2): Is it 2 ?
** Event #34  t=0  Network.player1 (Player1, id=2)  on 2 (omnetpp::cMessage, id=0)
INFO: Player(1): Right guess :)
** Event #35  t=0  Network.player2 (Player2, id=3)  on correct guess (omnetpp::cMessage, id=0)
<!> No more events, simulation completed -- at t=0s, event #35
** Calling finish() methods of modules
```

Sender (1) Code:

Player 1 Chooses Random number

```
19 // TODO auto-generated module
20 //
21 simple Player1
22 {
23     parameters:
24         int number=int(uniform(0,10));
25     gates:
26         input in;
27         output out;
28 }
29
```

Initialization for Player 1 Print out the Random number he **chooses without sending it too player(2).** He sends to player 2 to guess the number such that player 2 starts sending his guesses

```cpp
18
19  void Player1::initialize()
20  {
21      // TODO - Generated method body
22      //Hello Message
23      EV<<"Player (1): Hello I am Player 1"<<endl;
24
25      //Player 1 chooses a random number
26      EV<<"Player(1): The Number is "<<par("number").intValue()<<endl;
27
28      //Send Hello Message to Player 2 so that he starts guessing
29      cMessage *msg=new cMessage("Guess My Number :D");
30      send(msg,"out");
31      EV<<"Player(1): "<<msg->getName()<<endl;
32  }
33
```

Handle Event for player 1 he checks if the guessed number by player 2 is right or wrong guess

```cpp
34  void Player1::handleMessage(cMessage *msg)
35  {
36      // TODO - Generated method body
37  //     Check Player 2 Guess
38      if(atoi(msg->getName())!=par("number").intValue()){
39          //Wrong Guess
40          EV<<"Player(1): Wrong guess :("<<endl;
41          msg->setName("wrong guess");
42      }
43      else {
44          //right guess
45          EV<<"Player(1): Right guess :)"<<endl;
46          msg->setName("correct guess");
47      }
48      send(msg,"out");
49
50  }
51
```

Sender (2) Code:

Player 2 Guesses Random number

```
20 //
21 simple Player2
22 {
23     parameters:
24         volatile int number=int(uniform(0,10));
25     gates:
26         input in;
27         output out;
28 }
29
```

Initialization for Player 1 Print out Hello message

```
20 void Player2::initialize()
21 {
22     // TODO - Generated method body
23     //Hello Message
24     EV<<"Player (2): Hello I am Player 2"<<endl;
25 }
26
```

Handle Event for player 1 he sends his new guess if player 1 tells him that his previous guess wasn't correct or this is his first guess

```
27 void Player2::handleMessage(cMessage *msg)
28 {
29     // TODO - Generated method body
30     if(strcmp(msg->getName(),"correct guess")!=0){
31         //Wrong Guess or first guess send a new Guess
32         msg->setName(std::to_string(par("number").intValue()).c_str());
33         EV<<"Player (2): Is it "<<msg->getName()<<" ?";
34         send(msg,"out");
35     }
36
37 }
38
```

Assigment_2 Guess The Number