Software Dev. & Problem Solving II GCIS-124

Auction Finals

Goals of the Assignment

In this assignment you will build a small auction server and client using TCP/IP protocol. The system will allow multiple users to connect to a common server and participate in public bidding. Both the server and the client provide an opportunity to use networking in conjunction with threading.

Auction Activities

1. The auction system uses a very simple protocol consisting of the following commands.
    a. "**<Name>**": User's name which is the first message sent to a server after a client connects.

    b.

"**CURRENT:<highest bidder> <highest bidding>, time <time>**"":

Upon receiving a name, the server sends a "CURRENT" message with the current highest bidder, the bid value and a time elapsed from the last bid. If there was no previous bidding, the message should be "**CURRENT:No one 0, time:0**".

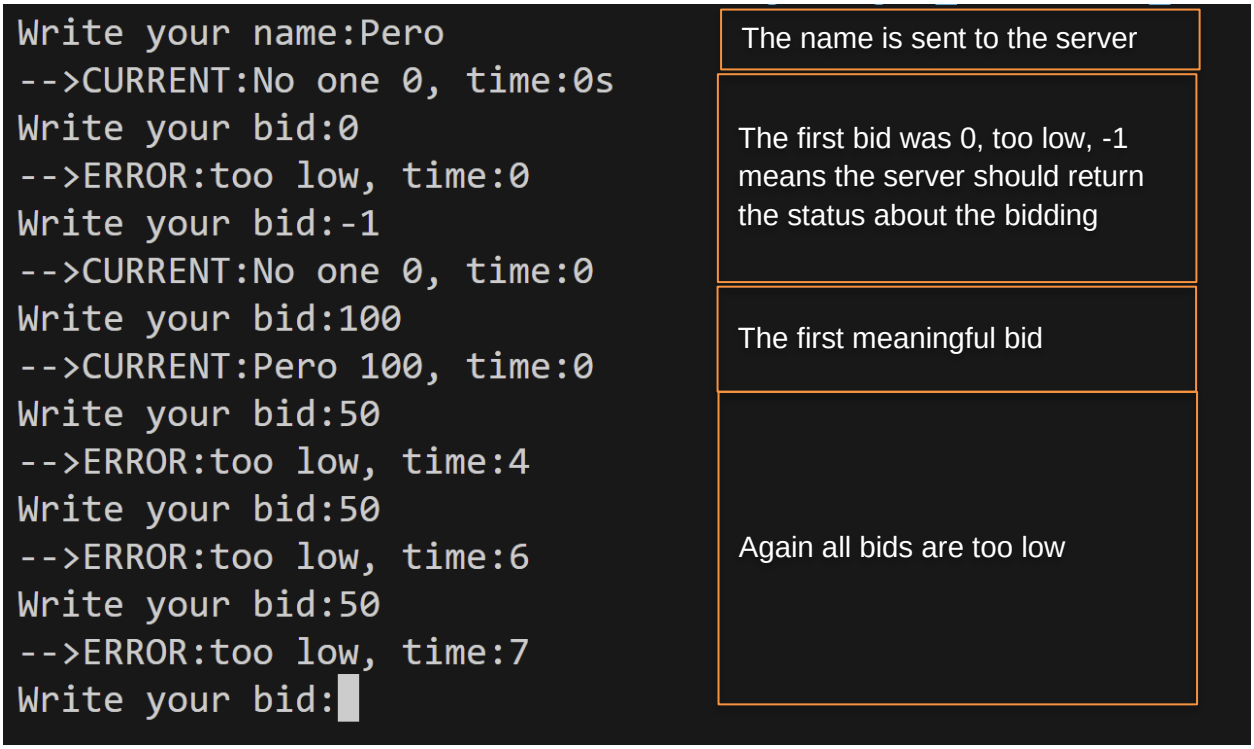
    c. "**BID:<bidding>**": The client sends a "BID" message with their proposed bidding price to the server. If the received bidding amount is lower than or equal to the current highest bid, the server sends **"ERROR:too low, time=<time>"** to the client. The "CURRENT" message must include the updated bidding information, formatted in the manner described in step b.

    d. "**BID:-1**": If the bidding value is -1, the server retunts the current status status of the bidding shown in step b.

    e. "END:<highest bidder> <highest bidding>": When the auction ends (if the time > 60), the server sends the "END" message to inform the client that the auction has ended and provides them with the winner and the final bidding price. The client needs to send a message to the server to get the END notification back.

    f. Create a separate client file (EchoClientAuctionM.java) which will allow to receive a messages from the server in a separate thread.

Example: One connected client named Pero



Example: Pero is first connected, then Stipe

Pero client

```
Write your name:Pero
-->CURRENT:No one 0, time:0
Write your bid:150
-->CURRENT:Pero 150, time: 0
Write your bid:150
-->ERROR:too low, time:2
Write your bid:150
-->ERROR:too low, time:4
Write your bid:200
-->CURRENT:Pero 200, time: 0
Write your bid:200
-->ERROR:too low, time:2
Write your bid:
```

Stipe client:

```
Write your name:Stipe
-->CURRENT:Pero 200, time:10
Write your bid:150
-->ERROR:too low, time:17
Write your bid:-1
-->CURRENT:Pero 200, time:20
Write your bid:500
-->CURRENT:Stipe 500, time: 0
Write your bid:
```

Any client if the time > 60!

```
Write your bid:-1
-->END:Stipe 500, Bidding ended!
```