Write-Up

Interface:

Broadcast
BroadcastReceiver

Class:

ChatClient extends Process implements BroadcastReceiver, Runnable
MultithreadedChatServer implements Runnable

Broadcaster implements Broadcast
rbBroadcaster extends Broadcast
fifoBroadcaster extends rbBroadcaster

Message implements Serializable
Process implements Serializable

Details:

Broadcast is the interface of broadcaster including methods that the broadcast
need.

BroadcastReceiver is the given interface.

ChatClient is the client.

MultithreadedChatServer is the Server.

Broadcaster is the parent class of the two broadcaster.
Inside this class, the broadcast method is just a bebBroadcast.
And there is a deliver method which will be implement in child class.

The rbBroadcaster is used when user choose not to have fifo order.
When receiving message, the broadcaster will print the message if it's not printed
before and put it in the message set.

The fifoBroadcaster is used when user choose to have fifo order.
When receiving message, the broadcaster will check if the sequence number is less
than the local sequence number, then it will print the message or it will put the
message in the pending set. After that, the broadcaster will check the pendingset,
rbdeliver all the message that has a messagenumber less than the local sequence
number.

Message class including a messageNumber, the content, the sender of the message and
a flag :
        'r' : register
        'h' : heart beat
        'g' : get
        'c' : chat from an other client
        'm' : normal message

Process is the given class.