

Concurrent Programming Project Example

Consider the Java files available in the two folders VotingClient and VotingServer for client-server computing. It shows the application that tallies the ballot received by an electronic voting machine. Each voter is a client and many connect to the voting machine from any computer on the Internet. On the server side, the termination of each session is echoed and the current tally is reported as each voter finishes his/her session.

The following are the steps to compile and run the Server and Client.

1. Compile all files in both the folders

```
javac *.java
```

2. Open four command prompts

3. In the first prompt, go to VotingServer folder and run Server

```
java Server
```

4. In other three command prompts run the clients (You may also try running clients from other machines in the network)

```
java Client <computer-name>
```

Ex: java Client cxx.pdc.jiit

Complete the following by observing the working of Voting server and client

1. Can you recreate the voting results illustrated by the above examples.
2. Now recreate the same voting results by varying the sequence in which the four voter start and finish their sessions.
3. Revise the program so that a voter may vote for only one candidate, rather than one or more.
4. Revise the program so that any number of candidates can be on the ballot, that number being provided by an argument to the server.
5. Revise the program so that each voter can see the current values of the shared variables tally both at the beginning of the session and after casting the ballot.