

JAVA Programming Lab : Team project - Communication

Purpose:

Make a Java-based communication (chat, instant messenger) program to exchange text, files, etc.

Submission:

1. Program descriptions (UML, important classes, methods, variables, etc.,)
2. Report (interface, function, action, discussion, etc.)

Requirements: The following must be fulfilled.

1. Each user must be able to send and receive characters through the server (socket).
(Connection must be maintained until terminated.)
2. Run the program to be able to identify who is chatting.
3. The GUI is not available, and you should use the console.
4. Include the following functions.

1 : M Communication

- More than three users can connect to the server.
- It is possible to distinguish between a user and the other users.
- The characters sent by a user can be checked by the remaining users.
- A user can check the letter sent by other users

N : M Communication

- Four users can connect to the server.
- Multiple users can send and view text in the common chat room.

Sign Up

- Distinguish the user through Sign Up process.
- Only the authorized users can access chat programs by checking their ID and password.

Save Conversation

- The conversation is saved at the server in " " format.
- Be able to confirm the user and transfer the previous conversation.

Communication List

- Be able to create multiple chat rooms within a server.
- The user can access the chat room and distinguish it from other conversation.

File Transfer

- Be able to transfer the files between the users in a chat room.

JAVA Programming Lab : Team project - Management

Purpose:

Make a program that manages data (membership, scores, statistics, etc.) on a variety of topics.

Submission:

1. Program descriptions (UML, important classes, methods, variables, etc.,)
2. Report (interface, function, action, discussion, etc.)

Requirements: The following must be fulfilled.

1. At least five data management functions must be available.
2. When the existing data is changed through the data management operation, the changed value should be maintained.
3. Be able to use the DB as needed.
4. The GUI is not available, and you should use the console.
5. Include the following functions.

Insert

- The user enters three or more pieces of information according to the member's ID, Name, Sex, and Subject.
- If the id of the member you want to input already exists, the program should output an error message to the user.
- If the ID of the input member is not already input, the data is stored together with the notification of the new member.

Modify

- The user enters the member's ID.
- If the user fails to enter the member's ID, the program prints an error message and returns to the menu.
- If the ID of the user is already registered, all the information of the member is displayed.
- Afterwards, ask the user if the user wants to modify the information.
- If the user enters "yes", allows users to modify the information except ID, Name, and Sex.
- The contents are updated with the input data and stored.

Delete

- The user enters the member's ID.
- If the user fails to enter the member's ID, the program prints an error message and returns to the menu.
- If the ID of the user is already registered, all the information of the member is displayed.
- Afterwards, ask the user if the user wants to delete the information.

- If the user enters "yes", delete all information of the member.

Search

- If the program selects Find, the following menu is displayed: "Type? (All, ID, more than 3 items according to subject) "
- If the user selects "All", the program outputs the information for all members.
- If the user selects "ID", the user enters the member's ID, and the program outputs the information of the member matching the input ID.
If the user enters the ID of invalid member, the program outputs an error message and returns to the menu.
- If the user selects "Item by topic", the user activates the function corresponding to the selected item.
The user can use all three operators ($>$, $<$, $=$).

Sort

- The user selects a sortable data item.
- The user can enter two sorting methods: Asc (ascending) or Desc (descending).
- The program outputs the information of all members including the data items entered in the ascending or descending order by the user.
- If the user enters invalid item, the program outputs the error message and re-print the menu.

JAVA Programming Lab : Team project - Game

Purpose:

Make simple board games (ex / Go, chess, maze search, etc.)

Submission:

1. Program descriptions (UML, important classes, methods, variables, etc.,)
2. Report (interface, function, action, discussion, etc.)

Requirements: The following must be fulfilled.

1. It is necessary to implement a game that can play one or two people
2. It should be able to record rankings according to the results in the game.
3. Be able to use the DB as needed.
4. The GUI is not available, and you should use the console.
5. Include the following functions.

*** 1 player mode**

- Allow the player to play the game alone.
- The user can choose resume or replay according to the results of the game.
- Save the results of the game as a record.

*** 2 players mode**

- Allow two players to play together.
- Win/Lose is decided according to the result of the game, and the result is stored as a record.

*** Rank board**

- The user can enter the Rank board and view the record until now.
- Depending on the results of the game, the rank board is automatically adjusted.
- The Rank board displays the rank, nickname, comparable record points, and the date and time the record was saved

Additional elements:

If you implement additional features of Java, you can get extra credit in addition to regular scores. If you implement additional functionality, provide a detailed description in the report. (However, GUI is not available.)

Submission:

The report should include a description and details of the program. Include enough screenshots to ensure that the program is working correctly. You should submit a code file (.java) as well as a Report. The reports and files are uploaded and submitted to "I-Campus".