Project 3: ConnectX

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Class: CPSC 2150/2151

**User Story:**

Functional Requirements:

1. As a user, I can have up to 10 players.
2. As a user, I can choose to have up to 100 rows and minimum of 3 rows
3. As a user, I can choose to have up to 100 columns and minimum of 3 columns.
4. As a user, I can start from any number of given columns.
5. As a user, my player token can only start from the bottom row.
6. As a user, my player token can be any character from the keyboard.
7. As a user, I can choose to have up to 25 in a row to win but it cannot be more than columns or rows.
8. As a user, I can try to stop other player winning by placing the token in the columns.
9. As a user, I can win if I can get the number of given place tokens in a row.
10. As a user, I can choose to have either fast game or memory efficient game.
11. As a user If I win, I get to decide to play again or exit the game.
12. As a user if the game ties, I have an option to play it again or close it.
13. As a user, if I opted in to play again than I should start as any number of player and any player character.
14. As a user, if I place a place token outside the bounds it will give me an error and it will ask me to choose it again.
15. As a user, if I place a place token other than mine it will give me an error and it will ask me to choose it again.
16. As a user, if I place a token at a filled space, it will give me an error and prompt me to rechoose it.
17. As a user, if I put a token in a column(s) that is/are already full, it will inform me an error and ask me to choose again.
18. As a user if I don’t have any free space than game will be tie.

Non-Functional Requirements:

1. The program must be coded in Java.
2. The program must be able to run on Unix, Windows and MacOS computers.
3. The program must be able to run SoC servers/computers.
4. In order to run the program, you need to go to the terminal and open the folder location, go to cpsc2150, go to src and run “make” for makefile, and then run “run make” to run the program.
5. Time for printing game board bust be quick.
6. Time for inputting tokens must be efficient and fast.
7. Tokens can only be placed inside the gameboard.
8. Time to check which player has won or Tie must be efficient and fast.
9. When its Tie, program must ask user if they want to play again, if yes time to load a new game must be quick.

How to run a mkefile:

1. Open Terminal
2. Locate the folder, by typing the “cd <foldername>”
3. Then cd “cd cpsc2150”.
4. After that “cd src”
5. And, Type “make”
6. After compilation, press “make run” to run the ConnectX

UML Class Diagrams

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UML Activity Diagrams

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