**Project Abstract**  
This document proposes a code that will emulate the game Connect Four in Java, using a GUI. To win a game of Connect Four, a player has to get their chips four in a row- either vertically, horizontally, or in a diagonal- before their opponent does. The Connect 4 “board” is a 6x7 grid where chips do not overlap and will stack on top of each other if placed in the same column. Each player will switch turns after dropping a chip and this will continue until someone gets four in a row or there is no more place to place chips.  
**Conceptual Design**I will have to use a GUI for this project since I want to the user(s) to see the game and know where they can place their chips. Since I decided to do this program in Java, I have the options to use either awt, swing, or both. Player 1 will be red while player 2 will be yellow. Each click will represent a turn, causing players to alternate turns. I will have to create a system to detect if the board has a 4 in a row pattern or not. That includes checking every chip on the board and seeing if there is 4 in a row of a chip’s color in all directions possible.  
**Proof of Concept**  
<https://github.com/TuStep/connect4>  
**Background**  
The product will emulate the game of Connect 4 and will tell you whether Player 1, 2 of neither won at the end of a match. I am following this version of Connect 4 as a template (<https://www.amazon.com/Hasbro-A5640-Connect-4-Game/dp/B00D8STBHY>).  
**Required Resources**  
To develop this project, I will need to learn how to use and implement a GUI since I have no experience in using it. I’m going to watch videos on how to create a GUI and eventually have the tools to create Connect 4 with Java.

**NEW IDEAS**

* Have a mode where the user can play Connect 4 with the computer (Possible AI functionality)
* Possibly recreate grid different from the Proof of Concept
* Add sounds or animations to placing chips