I. Here is a picture of a TicTacToe game.

The screen is 600x600 pixels. The coordinates are from -1 to 4 in both directions. The tic tac toe board extends from 0 to 3 in both directions.

A. **Draw axes** (by hand, on this paper) with some values labeled along the bottom and side the help with the following.

**Label the following points** on this piece of paper with actual numerical values for the coordinates:

- the endpoints for all 4 lines
- the centers of the three circles shown, and for all the other squares where a circle might go.
- the anchors for the labels across the top and for the labels down the side
- the anchors for entry boxes. (They are size 30 point)
• the anchors for the words Row and Col
• the anchors for the words good moves: and players: They are written in courier font (fixed width). I have added spaces to the string players: so both strings have the same number of characters.
• the anchors for each of the ordered pairs in the first row
• the anchors for each of the colors in the second row. I have added a space after blue and two spaces after red, so they have the same number of characters as the pairs in the row above.

B. If a player picks row 1, col 1, what are the x and y coordinates for the center of the corresponding circle? (Look at the points you labeled in part A.)

If a player picks row 1, col 2, what are the x and y coordinates for the center of the corresponding circle?

If a player picks row 1, col 3, what are the x and y coordinates for the center of the corresponding circle?

If a player picks row 2, col 1, what are the x and y coordinates for the center of the corresponding circle?

If a player picks row 3, col 1, what are the x and y coordinates for the center of the corresponding circle?

If a player picks row r, col c, what are the x and y coordinates for the center of the corresponding circle? You will need formulas involving r and c.
II. Here is a structure chart for the program we will write.
On the webpage is the corresponding program, with lots of pieces missing. It won't run as is. This is what you should do.

A. Copy main, but comment out all the function calls.
B. Add the function setUpWindow and uncomment the function call in main. Test it.
C. Add makeGrid, filling in the Point values. Uncomment the function call in main and test.
D. Add and fix up drawEntryBoxes. Uncomment the function call and test it.
E. You can add the function readChoices and call it. Keep the inner while loop commented out and stick to entering good values when running the program for the time being. Fill in code as described in the comments in main from 
   #construct x,y
   through
   #draw the circle.
   Test it.
F. makeReport should be fine, but you have to fill in makePlayerReport. Then main can call makeReport (which calls makePlayerReport). Notice that moveListPairs and playerlist are "parallel" lists. The first move in moveListPairs is in the color of the first item in playerList. Test your makePlayerReport by having it called by makeReport.

Take a screenshot of your screen right before closing.

III. Submitting your work.
   • Make sure your name is on this lab packet.
   • Staple your final program and the screenshot to the Lab 21 packet.
   • Turn the lab in at the file cabinet.

IV. Work on your projects.