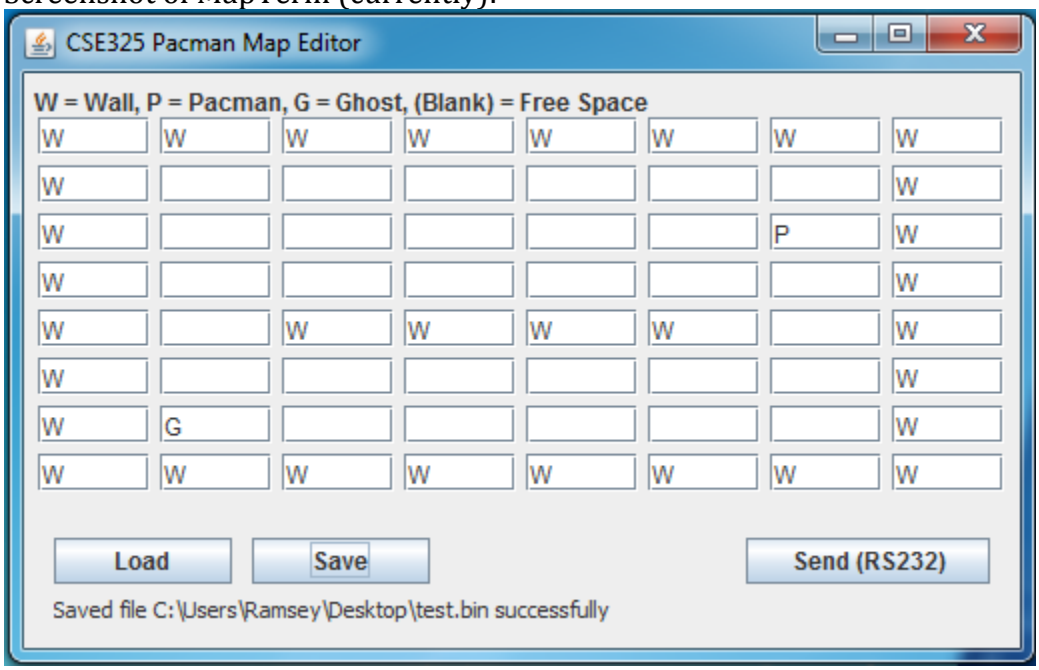
This project will implement all features from Project 6 (pacman game). The functionality of Push Button 1 will be slightly modified to toggle between a "Download" mode and a "Game" mode. When in "Download" mode, the board will wait for a game map to be sent over RS232 and nothing will be displayed on the LED array. The game map can be customized by the user on a computer that varies the player/ghost spawn points and the layout of the walls. When in "Game" mode, the game will load the last downloaded map which the user can play on. A default map will be embedded into the program so a map download is not required to play the game.

Maps will be stored as 64 byte binary files that represent the 8x8 LED grid. Each "tile" on the map will have an associated code associated with it that will determine the type of the tile (Wall = 0x01, Player spawn = 0x02, ghost spawn = 0x03, or blank = 0x00). Bundled with this project is MapTerm. MapTerm is a java application written for this Project that can send data over RS232* and provides map editing functionality. Map files can be edited with the MapTerm tool or a hex editor. This program will be the primary way a user can send maps to the board.

The structure of the download protocol operating over RS232 will simply be a header of 0xFF followed by 64 bytes representing initial tile state of the map.

Screenshot of MapTerm (currently):



Hex view of Map file from above:

0	01	01	01	01	01	01	01	01	01	00	00	00	00	00	00	01
10	01	00	00	00	00	00	02	01	01	00	00	00	00	00	00	01
20	01	00	01	01	01	01	00	01	01	00	00	00	00	00	00	01
30	01	03	00	00	00	00	00	01	01	01	01	01	01	01	01	01

* The RS232 sending portion of MapTerm is a modified version of Dr. Burger's SleazyTerm application.