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PROGRAMMING ASSIGNMENT 4

Discussion on a high level with your colleagues is encouraged. Make sure the work submitted is your own. When in doubt, ask a TA or the instructor. If you are not sure what constitutes academic dishonesty, please refer to the AISC web site: https://aisc.uci.edu/.

You can fill out your answers below in text, paste screenshots, and/or include images (make sure the image is right side up & legible).

AISC

Please initial here to indicate you understand UCI's Academic Integrity Policy and confirm that this is your own work you are submitting (this counts for points): CPZ

SCREENSHOT OF TERMINAL COMPILING W/ C99 STANDARD W/ OUTPUT FILENAME TICTACWHOA

First screenshot is the file in my Linux account:

```
[chpeters@crystalcove ~/eecs20]$ ls -l
total 12
-rw-------. 1 chpeters ugrad 8709 Sep  4 21:05 TicTacWhoa.c
[chpeters@crystalcove ~/eecs20]$ []
```

Second screenshot is of the compilation:

```
[chpeters@crystalcove ~/eecs20]$ gcc TicTacWhoa.c -ansi -std=c99 -Wall -g -o TicTacWhoa
[chpeters@crystalcove ~/eecs20]$ ls -l
total 40
-rwx------. 1 chpeters ugrad 26984 Sep  4 21:13 TicTacWhoa
-rw-------. 1 chpeters ugrad  8709 Sep  4 21:05 TicTacWhoa.c
[chpeters@crystalcove ~/eecs20]$ []
```

SCREENSHOT OF THE INITIAL PROGRAM SCREEN

The initial program screen after hitting run is:

```
[chpeters@crystalcove ~/eecs20]$ gdb TicTacWhoa
GNU gdb (GDB) Rocky Linux 8.2-20.el8.0.1
Copyright (C) 2018 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
This GDB was configured as "x86_64-redhat-linux-gnu".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
    <http://www.gnu.org/software/gdb/documentation/>.

For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from TicTacWhoa...done.
(gdb) run
Starting program: /users/ugrad/chpeters/eecs20/TicTacWhoa
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
```

 We get prompted with the menu.

SCREENSHOT OF THE GAME

Let's say we press 1 above to start the game. Then we will have:

```
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
1
Game Begins...
Player 1 Symbol: X
Player 2 Symbol: O
3___|___|___
2___|___|___
1___|___|___
   A   B   C
Player 1's Move:
```

Now the board is loaded and we are prompted for player 1's move.

After 3 moves in total we will have:

```
Player 1's Move: A1
3___|___|___
2___|___|___
1_X_|___|___
  A   B   C
Player 2's Move: C1
3___|___|___
2___|___|___
1_X_|___|_O_
  A   B   C
Player 1's Move: A2
3___|___|___
2_X_|___|___
1_X_|___|_O_
  A   B   C
Player 2's Move: ▯
```

The result of the game shown above was:

```
Player 1's Move: A2
3___|___|___
2_X_|___|___
1_X_|___|_O_
  A   B   C
Player 2's Move: A3
3_O_|___|___
2_X_|___|___
1_X_|___|_O_
  A   B   C
Player 1's Move: B2
3_O_|___|___
2_X_|_X_|___
1_X_|___|_O_
  A   B   C
Player 2's Move: C2
3_O_|___|___
2_X_|_X_|_O_
1_X_|___|_O_
  A   B   C
Player 1's Move: C3
3_O_|___|_X_
2_X_|_X_|_O_
1_X_|___|_O_
  A   B   C
Player 1 has won the game
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
▯
```

Below are a variety of screenshots of a tied game showing error handling as well:

```
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
1
Game Begins...
Player 1 Symbol: X
Player 2 Symbol: O
3___|___|___
2___|___|___
1___|___|___
  A   B   C
Player 1's Move: A1
3___|___|___
2___|___|___
1_X_|___|___
  A   B   C
Player 2's Move: A2
3___|___|___
2_O_|___|___
1_X_|___|___
  A   B   C
Player 1's Move: A3
3_X_|___|___
2_O_|___|___
1_X_|___|___
  A   B   C
Player 2's Move: B1
3_X_|___|___
2_O_|___|___
1_X_|_O_|___
  A   B   C
Player 1's Move: B2
3_X_|___|___
2_O_|_X_|___
1_X_|_O_|___
  A   B   C
Player 2's Move: C3
3_X_|___|_O_
2_O_|_X_|___
1_X_|_O_|___
  A   B   C
Player 1's Move: A1
```

```
invalid move, please specify both column and row
3 X |    | O
2 O | X |
1 X | O |
   A   B   C
Player 1's Move: A4
invalid move, please specify both column and row
3 X |    | O
2 O | X |
1 X | O |
   A   B   C
Player 1's Move: B3
3 X | X | O
2 O | X |
1 X | O |
   A   B   C
Player 2's Move: C1
3 X | X | O
2 O | X |
1 X | O | O
   A   B   C
Player 1's Move: C2
3 X | X | O
2 O | X | X
1 X | O | O
   A   B   C
Tie, game over
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
```

SCREENSHOT SETTINGS ADJUSTMENT:

The following screenshot show the settings pane where the symbol used can be adjusted.

```
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
2
Choose Player (1 or 2):
2
Select your symbol
Q
Select one of the following numbers
1 Start New Game
2 Settings
3 Exit Program
1
Game Begins...
Player 1 Symbol: X
Player 2 Symbol: Q
3___|___|___
2___|___|___
1___|___|___
  A   B   C
Player 1's Move: A1
3___|___|___
2___|___|___
1_X_|___|___
  A   B   C
Player 2's Move: A2
3___|___|___
2_Q_|___|___
1_X_|___|___
  A   B   C
Player 1's Move: []
```

As you see, player 2's symbol is now a Q.