CSE 3666: Fall 2015 Program #3
Date assigned: Thursday, October 8, 2015 Due: Thursday, October 15, 2015

For this program, you will write a MIPS assembly language function that will interact with some provided functions. Your code will provide a front end for a Sudoku solving program. You will query the user to determine which of 5 provided Sudoku puzzles to solve, pass the selected puzzle to the solver function, then use a print function to display the results of the computation. Your program should continue to loop until the user selects the quit option.

To get your program to run, you will need to include the provided functions. However, you should submit your code without the Sudoku functions. You can combine your code to that of the necessary function by running the batch script provided on HuskyCT with your file name as a parameter (ex: P3Combine.bat "Program #3.asm"). The script will place the result in a file named output.asm that can be loaded into QTSPIM and run as normal. You will need to rerun this script every time you edit your program so that the output file has your latest code. Alternatively, you can use an equivalent command to concatenate the code from each of the files and place it in an output file.
Unix: cat <Program #3 Function Name>.asm "Program #3 - Sudoku Functions.asm" > <output>.asm

Your program should include appropriate comments indicating what the code should be doing and what registers are being used for. After displaying the results, your program should exit cleanly. Your programs should be turned in through HuskyCT before class starts on the due date. You should test your programs using the SPIM simulator to ensure their functionality before submitting them.

Example output:

```
1. An easy puzzle
2. A medium puzzle
3. A hard puzzle
4. An evil puzzle
5. An unsolvable puzzle
6. Quit
Choose an option:  3

  Puzzle                      Solution
-------------------------    -------------------------
|   6   |   7   |     9 |    | 5 6 8 | 4 7 2 | 3 1 9 |
|       |       |   4 2 |    | 7 9 3 | 6 8 1 | 5 4 2 |
|     4 | 5 3   |       |    | 1 2 4 | 5 3 9 | 8 6 7 |
-------------------------    -------------------------
|       | 7     | 6     |    | 8 1 2 | 7 9 4 | 6 3 5 |
| 6 4 9 |       | 1 7 8 |    | 6 4 9 | 3 2 5 | 1 7 8 |
|     7 |     8 |       |    | 3 5 7 | 1 6 8 | 2 9 4 |
-------------------------    -------------------------
|       |   5 6 | 7     |    | 4 8 1 | 9 5 6 | 7 2 3 |
| 9 7   |       |       |    | 9 7 5 | 2 1 3 | 4 8 6 |
| 2     |   4   |   5   |    | 2 3 6 | 8 4 7 | 9 5 1 |
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1. An easy puzzle
2. A medium puzzle
3. A hard puzzle
4. An evil puzzle
5. An unsolvable puzzle
6. Quit
```

```
Choose an option:  6
```

Objectives:

1. To introduce and practice building functions in the MIPS assembly language.
2. To introduce and practice working with the stack.
3. To introduce and practice working with arrays.
4. To introduce and practice working with pointers.
5. To introduce and practice working with objects.