DUE: 5pm, Monday, December 11.

Objective
To strengthen your assembly level programming skills and to encourage good program design skills through collaboration as a team.

Problem Statement
Using QTSpim or MARS, write and test a program that disassembles itself. Your program looks at program memory starting at the default address, determines what instruction is present, and prints to the console window a line-by-line output of the program that currently exists in program memory (which happens to be the program that is currently running). For instance, suppose the following short program exists in memory:

```
[0x00400000] 0x3408000a ori $8, $0, 10  # load "10" into register 8
[0x00400004] 0x3409000b ori $9, $0, 11  # load "11" into register 9
[0x00400008] 0x01095020 add $10, $8, $9  # add registers 8 and 9, put result in register 10
```

The result of running your program would print the following to the console window:

ori $8, $0, 10
ori $9, $0, 11
add $10, $8, $9

Notes
- Assume that the program to be disassembled starts at the default program memory address of 0x00400000.
- Assume that the first occurrence of a syscall using integer 10 terminates the program, i.e. your program should terminate when you detect the following two subsequent instructions:
  ```
  li $2,10
  syscall
  ```
- You cannot disassemble labels or mnemonics, nor can you detect any assembler directives. The only information you have to work with is contained in the 32-bit machine code instruction.
- Pseudo-code instructions will not be a problem since they are assembled into actual Mips assembly instructions before being placed into program memory.
- A lookup table is likely to be a helpful data structure for storing the 6-bit pattern of the MIPS instructions. You do not need to provide for floating-point instructions.
- Plan to work as a team of one or two. If you cannot find a compatible partner, come talk to me.

To Turn In
- This assignment sheet stapled to a hard copy of your source file;
- A page describing any difficulties you had, challenges you overcame, etc;
- Place a copy of your source code into the appropriate Final Project dropbox folder by the due date. Your final program should be named lastname_firstname.asm, and it should be suitable for running in QTSpim or MARS. Note that if you have a partner, each student should place a copy of the program in D2L.