CSE 410 - Computer Systems
Programming Project 2 Questions

Assigned: Wednesday, October 17, 2001
Due: Wednesday, October 24, 2001 before class

Your name: _____

1.   Draw a diagram that shows the calling relationship between each of the procedures in your program. This will be an inverted tree (with only a few branches, probably) with main at the top. Near the line that goes from the calling procedure to the called procedure, list the arguments of the called procedure and show which register or stack location you put them in.

2.   For this project, you have two different methods of obtaining user inputs (command line and console window). What does the program do to get a numeric value from the command line? What does a program do to get a numeric value from the console? How are these methods different from each other?

3.   Consider your "cycleCA" procedure. The very first steps that you take are to
        allocate space on the stack with a subu instruction for need-to-save registers and
        then store the register contents so that you can restore them later. Create a
        drawing of the stack contents after the subu and sw instructions have executed.
        You need to write in the offsets for each word, and the contents or purpose of
        every word in the stack frame. Look at the drawing labeled "Layout of QuickSort
        stack frame" in the lecture of October 10 to see what information should be
        shown in the drawing.

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cycleCA:
   subu $sp,$sp,__
   ...
```

$sp (on entry) →

stack frame

$sp (after subu) →

towards 0
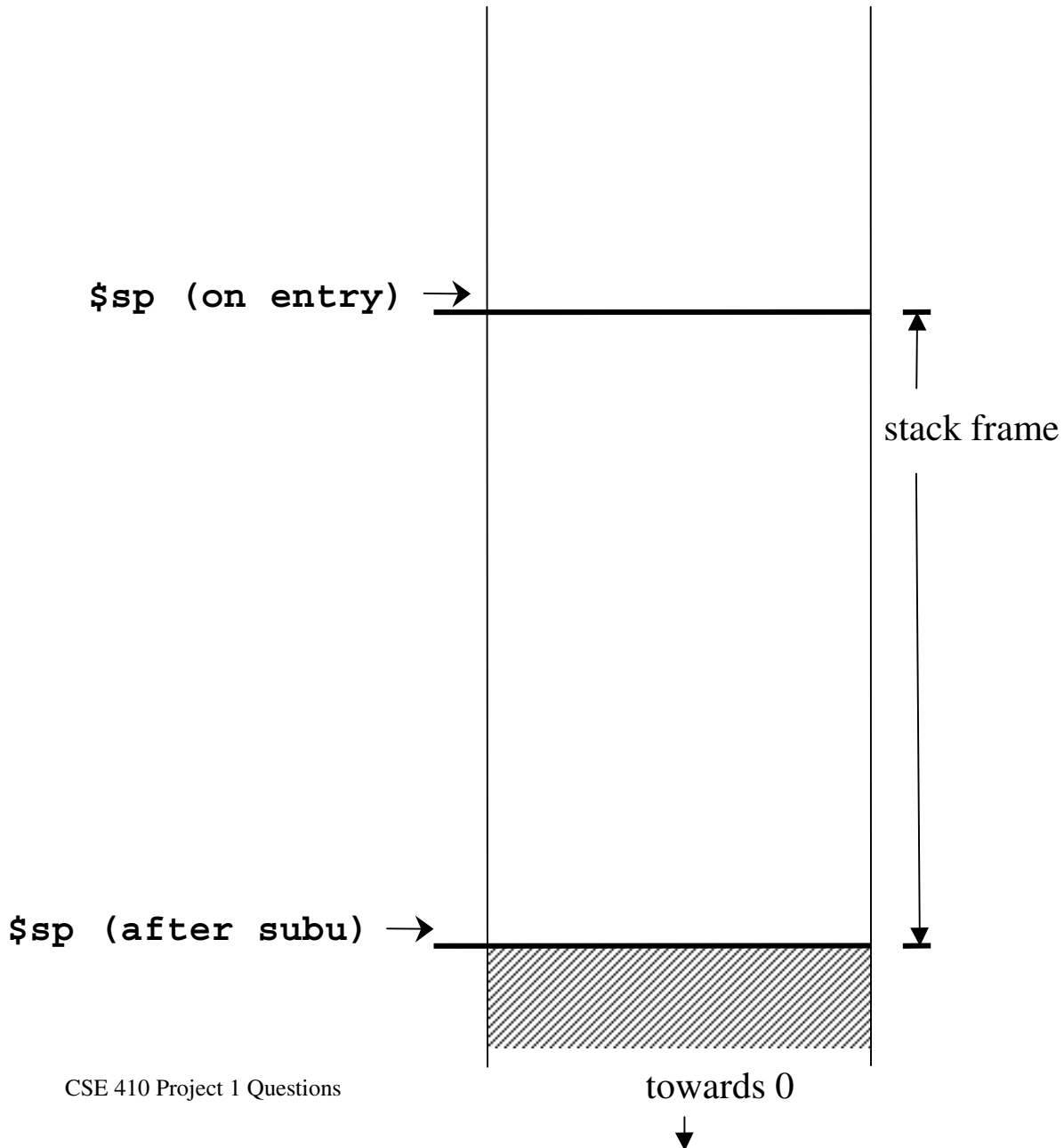
4.   Did you implement the arbitrary length bit strings for extra credit? If so, describe
        how well it works or doesn't work.