COSC 2440
Computer Organization and Architecture

Programming Assignment 1

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Fall 2016

Homework 05

- Deadline: Tuesday, Nov 15, 11.59 pm
- Submissions through Blackboard only
  - Source code files (.s) **only,** one for each part
  - Please do not submit project files or documents otherwise
  - Only one submission attempt - only upload when you are really done!
- In case of questions, ask **<u>early!</u>**
- Total no. of points: 25
- Two parts

- Part1: Develop an assembly language version for the ARM ISA for the following C code   (10 pts)

```
int a[100];
for (i=0;i<100;i++) {
  a[i] = 100-i;
}
```

- **Part 2:** The following code sequence represents the same loop as in part one, but utilizing the C++/Java style notion of dealing with arrays by determining the next element using the `next()` function and the overall size of the array using the `size()` function. Develop the assembly language version for the ARM ISA for this code.

(15 pts)

```
int main ( int argc, char **argv)
int a[100];
for (i=0;i<size();next(i)) {
  a[i] = 100-i;
}
return;
int size (void){
  return 100;
}
int next (int i) {
  return i+1;
}
```

Some hints

- Please use as a template the <u>first</u> example from the lab section (i.e. the version which does not include the Startup file provided by Keil)

- Please add a comment header to each file containing your name, which part the provided source code is implementing (part 1 or part 2), and a brief description of your solution.