

CMPT350: Lab Demo 3

Learning procedures in MIPS

1%

Due: Wednesday, October 5 @ 16:50

Just as in other languages, we have access to functions and code re-use in assembler. This lab will introduce how to create a procedure and use them to quickly reuse code.

Laboratory Procedure:

From the Lab Demo 3 assignment, download the demo3.s skeleton file to begin working from. Create a MIPS program that uses two procedures, one that prints a string of your choice, and one that prints a newline. Use these procedures to print your string 10 times on new lines in a loop.

Assignment Requirements:

Ensure your program meets all the following requirements:

- Two procedures are implemented; one to print a string of your choice and one to print a newline
- The procedures *return* program flow to where they were called from (I.e., you don't jump at the end of the procedure to a fixed label)
- Printing the new line and printing your string occur in separate procedures
- The procedure calls occur in a loop
- The program terminates cleanly
- The program is well documented

***** NOTE:** Your code **must run** within the **laboratory environment**. Failure to do so will result in a **mark of ZERO** for the program. *******

Submission

When you feel your program meets all of the above requirements, call the lab instructor over and they will review your program with you. Please wait until you are confident in your program's results. (Feel free to ask for clarification on anything at any time though!). Your program should be named using your name and end in a `.s` extension, for example, `BakerDemo2.s`

After demonstrating your program to the lab coordinator, create a zip archive with your code submission and trace file included. An easy way to do this is with the `zip` command. For example, if your solution file and trace file are in a folder called `baker`, then the command `zip -r baker.zip baker/` will create a zip file containing your submission files called `baker.zip` (Replace this with your name when creating your zip file). Upload this zip file to Moodle.

Hints

- We only need two new instructions to work with basic procedures from what we already know:
 - `jal`, the Jump And Link instruction
 - `jr`, the Jump to Register value instruction