Project 1

25 points

Project Description

This project will help you to familiarize yourself with MIPS assembly language and encoding of MIPS instructions to machine language.

Write an assembly program `threeTimes.asm` that:

1. Prompts the user to enter 3 integers
2. Displays the 3 integers
3. Prints the sum of these three multiplied by the number 3
4. Use the starter code file, `threeTimes.asm`, and make the necessary modifications for this project. Remember, to place YOUR name at the top of the code.

An example dialog follows:

```
This is Dianne Foreback presenting threeTimes.
Please enter an integer: 5
Please enter an integer: -3
Please enter an integer: 12
The sum of your numbers multiplied by 3 is: 42
```

Aside: Notice `42 = (5 + (-3) + 12) * 3`

Project Submission and Deliverables

Submit your code to your Subversion repository. You will need to create a folder `Project1` to include your files for this project.

Please submit the following two files in your Subversion account under the `Project1` folder. Make certain that your assembly code is properly organized (indented, commented, contains your name at the top of the code).

1. The MIPS Assembly Code Language file titled **`threeTimes.asm`**
2. The Report file pdf with screen prints titled **`threeTimes.pdf`**

Your report must include:

1. Your name
2. A list of the assembly code file (for this assignment, `threeTimes.asm`)
3. A brief summary of project implementation
4. Results showing the working code via screen prints
5. The conclusion listing the lessons learned and problems faced

To potentially receive partial credit for non-working code, provide your descriptive analysis of what is occurring in the non-working code and why you believe this is occurring.

Verify that your report and code is submitted in subversion by viewing from the web browser. If your pdf report does not load, you will lose points.

Hint: Although we have not examined the MIPS "`mul`" you may read ahead. Use this instruction to multiply the summation of the 3 integer values entered by the user. Otherwise, you can use the "`add`" instruction multiple times.

Grading

- Working Code (90%)
- Report including results (10%)

If your code does not assemble, a minimum of 50% will be deducted from your score.

Reference Materials

- Patterson and Hennessy: Chapters 2.1–2.3, 2.5, Chapter 3.1–3.3, Appendix A.10
- Subversion Instructions (for how to set up and use Subversion)