

Machine Organization and Assembly Language Programming

Problem Set #4

Due: Wednesday May 4th

By the due date, you should have read Chapter 1, Chapter 2, Chapter 3 (Sections 3.1 through 3.3), Chapter 4 and Chapter 5 (Sections 5.1 through 5.5). Also read about Amdahl's law pp 266-267 and on the CD (in more depth 4.8.1-2)..

1. Exercises on Single Cycle Implementation:

- (a) Chapter 5. Ex 5.9. The ALU can also perform shifts with the shift count being one of the sources of the ALU. Of course the ALU control needs to be modified to include the shift command.
- (b) Chapter 5. Ex 5.10.

2. Exercises on Multiple Cycle Implementation:

- (a) Chapter 5. Ex 5.32
- (b) Chapter 5. Ex 5.33

3. Exercises on Performance:

- (a) Chapter 4. Ex 4.8, 4.9,4.10, 4.11.
- (b) On the CD: Ex 4.22 and 4.23