

COL216 Computer Architecture
Lab Assignment 4

The objective of this assignment is two fold.

1. To modify the processor design of lab assignment 3 to make it pipelined.
2. Make a major enhancement in the system architecture by adding one of the following features.
 - a. Memory hierarchy
 - b. Input/Output subsystem
 - c. A co-processor

More details about these will be provided in due course of time.

There are four steps involved in this exercise.

1. Design and simulate the pipelined datapath with data forwarding.
2. Add control logic to the design, including a simple branch predictor.
3. Do a high level design of the enhanced system.
4. Complete the detailed design of the enhanced system and simulate it.

You can make teams of two students to do this assignment.

Date of announcement: 21st March, 2016

Dates of submission:

- | | |
|--------|------------------------------|
| Step 1 | 4 th April, 2016 |
| Step 2 | 12 th April, 2016 |
| Step 3 | 20 th April, 2016 |
| Step 4 | 27 th April, 2016 |