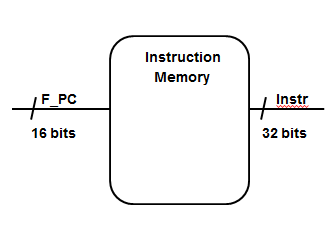
Team Members: Saroj Bardewa and Conor O'Connell

Week #6

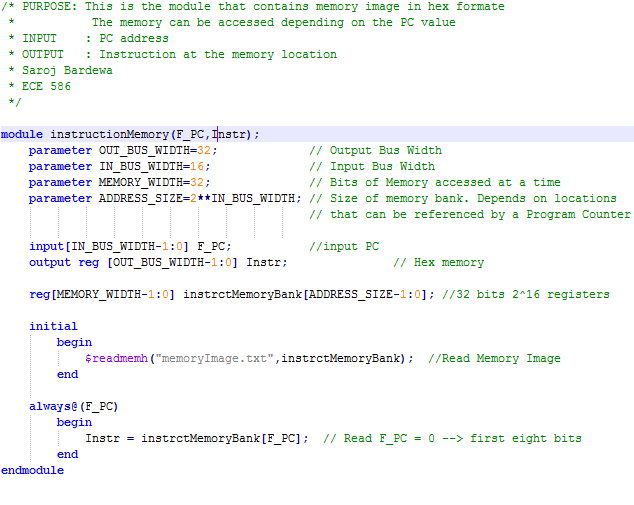
THIS WEEK:

1. Designed Instruction Memory Unit

The first step in pipeline is to read in instruction from the memory\_image. We designed a instruction memory unit that reads in and saves 32-bit of data in a memory bank. And the program can access the instruction in any order –it can process out of order execution.

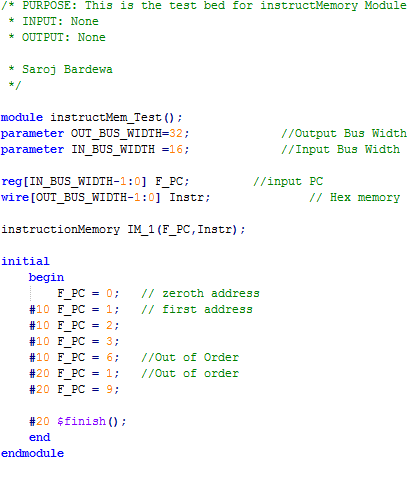


***Instruction Memory Module Program***



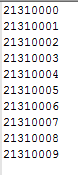
Test bench for the instructionMemory Module

This program tests the InstructionMemory Module to verify the output of the module for given input combination.



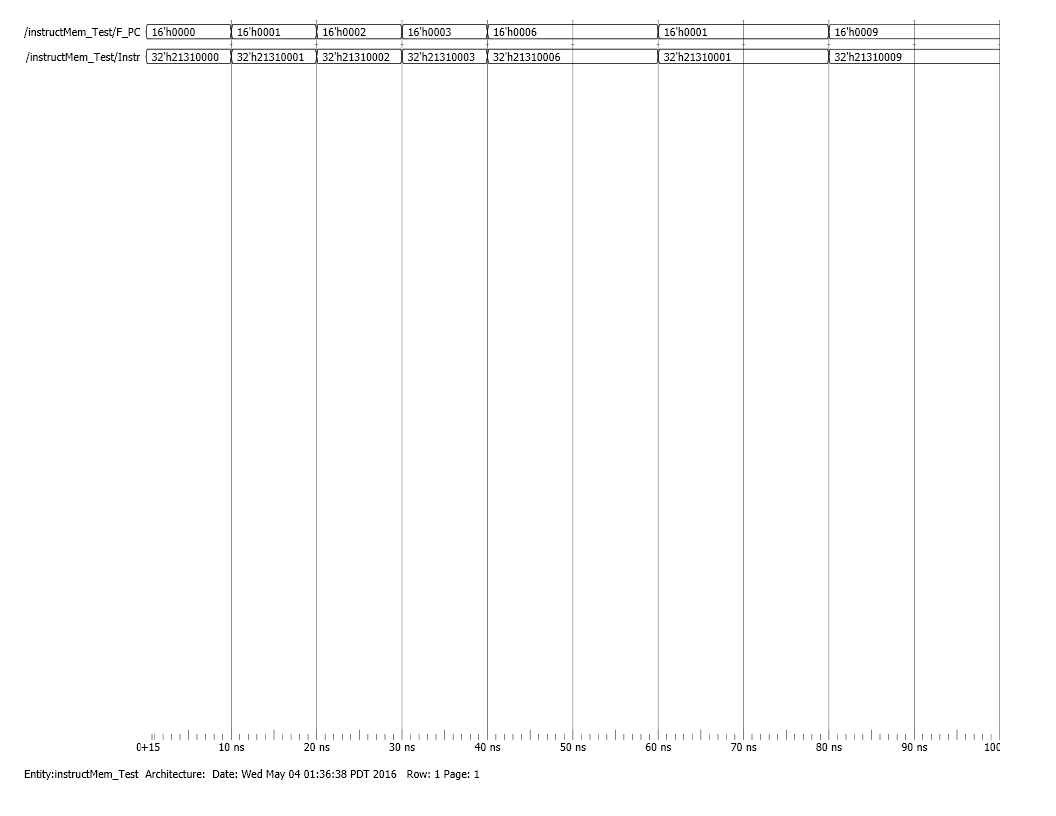
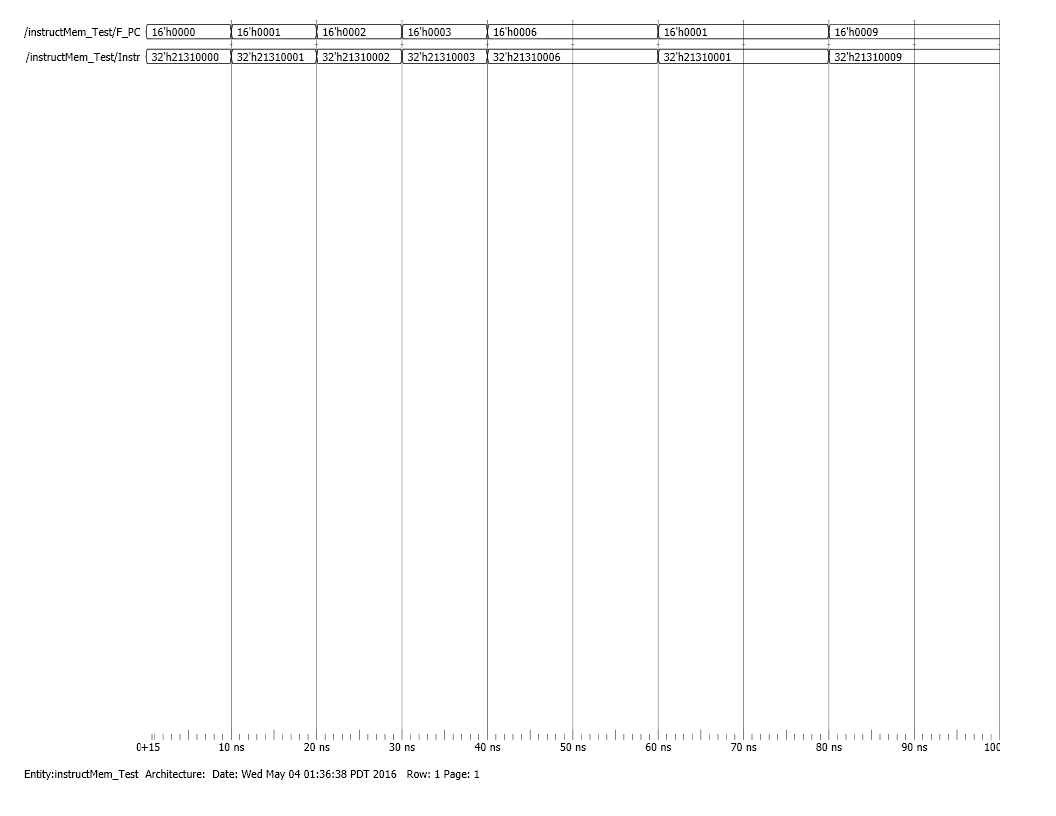
**Test File:**

This test file contains the memory image of 32-bit address in hex format.

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**Result of the simulation:**

The result of the simulation gives the memory instruction accessed for a given PC value. The out of order execution makes the program very efficient.



1. **Conor??**

**NEXT WEEK:**

1. Work further on designing a basic pipeline NN processor.
2. Extend capability of our simulation to load in a hex textfile and save the results to a hex file
3. Complete the assembler and produce the instructions in hex format