

CE/CZ3001

PROJECT- GROUP REPORT FORMAT DEADLINE FOR SUBMISSION: 11TH NOVEMBER 2015 (BEFORE 5PM).

Submit to hardware projects lab

Part 1

1. Test bench screenshots.
You should present the testbench screen shots for the execution of any program which involves LW, SW and BEQ instructions along with R & I instructions.
2. Explain the working of LW, SW and BEQ instructions in the same program.
3. Synthesis report:
 - a. Number of LUTs,
 - b. Number of slice registers
 - c. Minimum period

Part 2

1. Test bench screenshots.
You should present the testbench screen shots for the execution of any program involves J, JR and JAL instructions along with R & I instructions and part 1 instructions.
2. Explain the working of J, JR, JAL instructions in the same program.
3. Synthesis report:
 - a. Number of LUTs,
 - b. Number of slice registers
 - c. Minimum period

Part 3

Section-1

1. Assembly code of the original program segment given in the assignment.
2. Machine code (The input to the Imem txt file)
3. Report the number of clock cycles taken for the execution of the program (where hazards are taken care of)
4. Execution time of the given program segment

Section- II

5. Modification of the given program segment as mentioned in Part 3 of the question.
 - a. Modified assembly code of the given program segment.
 - b. Machine code (The input to the Imem txt file).
 - c. Report the number of clock cycles taken for the modified program segment (where hazards are taken care of).
 - d. Execution time of the modified code.
6. Speed up of modified code when compared to original code in Section-1

Bonus topics

1. Implementation of cache.
2. Any other substantial improvement made in the hardware to improve the performance of the system.