

Simulator for APEX

CS-520- PROJECT 2

TEAM REPORT

GROUP MEMBERS:-

NIMISH SAKALKALE

ANIKET RAJMANE

PRASHANT KOLHE

The project is developed as a result of cumulative efforts of each team member. Team members completed the assigned tasks and tested thoroughly.

We conducted several project meetings.

Tasks completed by group members:-

Nimish Sakalkale-

- Implemented register file class which contains data structures such as
 - archRegisterFile,
 - validBits for physical registers,
 - AliasTable ,
 - Allocated Bits for architectural registers ,
 - free list and Renamed Bits
- Implemented FU units such as
 - LS_Fu_stage_1,
 - LS_Fu_stage_2
 - LS_Fu_stage_3
- walkback method has been implemented to restore alias table entries if branch is taken.
- interaction and integration of modules.

Aniket Rajmane-

- Implemented IQ, LSQ which contains following methods:
 - Enqueue
 - Dequeue
 - flushIQEntriesAfterBranchTaken
 - broadcast
 - isEmpty
 - isFull
- Implemented FU units such as
 - INT FU,
 - MUL FU,
 - LS_Fu_stage_3.

Prashant Kolhe-

- Implemented ROB, which contains following methods:
 - Enqueue
 - retireValidInstructionsFromHead
 - markROBEntryCompleted

- flushROBEntriesFromBranch
 - isROBListEmpty
 - isROBListFull
- Decode stage which contains following methods:
 - addUnusedRegistersToFreeList
 - assignFreeReg
 - Insert entry in IQ and ROB.
- Load store ordering in LSQ.