**RV32I Class Project Description**

1. Skeleton Analyzing
   1. RV32I System
      1. RV32I System.v
         1. Input: Clock / Button[3], Switch[10]
         2. Output: HEX0~3[7] / LEDG[10]
         3. Code
            1. Reset button = BTN[0]
            2. fetch addr, inst, data addr, write data, read data: Data fetch from MEM
            3. cs = chip select, data we = data write enable
      2. Altera Mem Dual Port: ram2port package / Inst/Data 포트
      3. Altera PLL: ALTPLL clkgen package / Clock기반으로 다양한 위상의 Clock 생성
      4. Decoder: Addr Decoder.v / 주소에 따라 cs 신호를 할당
      5. GPIO: GPIO.v / General Purpose I/O 모듈, 버튼/스위치/LED/7Seg 출력 관리
      6. RV32I CPU
         1. Basic Module.v: register I/O, ALU, Adder(32 bit, 1 bit), 2 input Mux
         2. rv32i cpu.v
            1. Controller

Maindec

Add ALU operations

Aludec

Add ALU signals for instructions on R/I-type instructions

* + - * 1. Datapath
    1. Timer: TimerCounter.v / 타이머/카운터 모듈
    2. RV32I System tb.v
  1. RV32I System SIM
  2. RV32I System SYN