Design Project 2

Inputs

- 50MHz Clock (CLK)
- Reset Clock (Button)
- Iterate Hour (Switch)
- Iterate minute (Switch)
- Iterate Second (Switch)
- **Select** alarm time vs display clock (Switch)
  - Decides what is displayed
  - Decides what is modified when iterate button pressed
- Choose between alarms (Extra Credit), when Alarm is **selected**
  - 2 switches -> 4 possible different alarms

Modules

FOR BOTH SETTING ALARM AND FOR SETTING CLOCK

- Counter for seconds (CLK/50 000 000) reset after 49 999 999
- Counter for minutes (seconds / 60) reset after 59
- Counter for hours (minutes / 60) reset after 23
- Alarm Module (checks if alarm time = current time)
- SevenSegmentDriver
- Comparator
- Counter
- Parser
- Adder

Outputs

- 6, 7 bit busses for display
- Audio (Hook up anything external to turn on when Alarm time = Current time)