IN THE NAME OF THE GOD

Logic Circuit Final Project implement description:

Module 1:

In this module we design Temperature Calculator we have inputs and formula for output temperature.

first we convert ref from 2 complement into binary number because multiplier input must be defult binary because its first bits multiply wrong when its in second complement mode.

then multiply adc date and result of ref power 2 and give to 32 bit full adder to add result to base to get final result.

8 bit multiplier: use Verilog multiplier sign “*”

16 bit multiplier : use Verilog multiplier sign”*”

32 bit full adder: use “+” sign to plus 32 biyts number

temperature calculator: just assemble this units with each other to calculate result and conversion of ref from second complement to unsigned int.

module 6:

we need to design register with enable and asynchronous reset for save date and get output .

we use parrarel register instead of shift register because we need all dates in same tame at the positive edge of clock.

module 7:

in this case we design FSM with 5 state ,request input, pass asynchronous reset, date in and date out ,confirm

we use a one hot system to design it with switch cases and if else if got one state and request is 1 go to next state then confirm

then get the pass and compare to real password if its equal and user confirm the date date save in register .

use nested if to implement the states .if reset is 0 or asynchronous is 1 in which state the out put must be zero and go to STATE_IDLE and wait for new request from the user.