EE 3921

Dr. Johnson

Homework 4

1) Code and simulate your HVAC system from HW3. Use a fixed Desired temperature of 25°C. Ramp the Actual temperature from 10°C to 40°C.
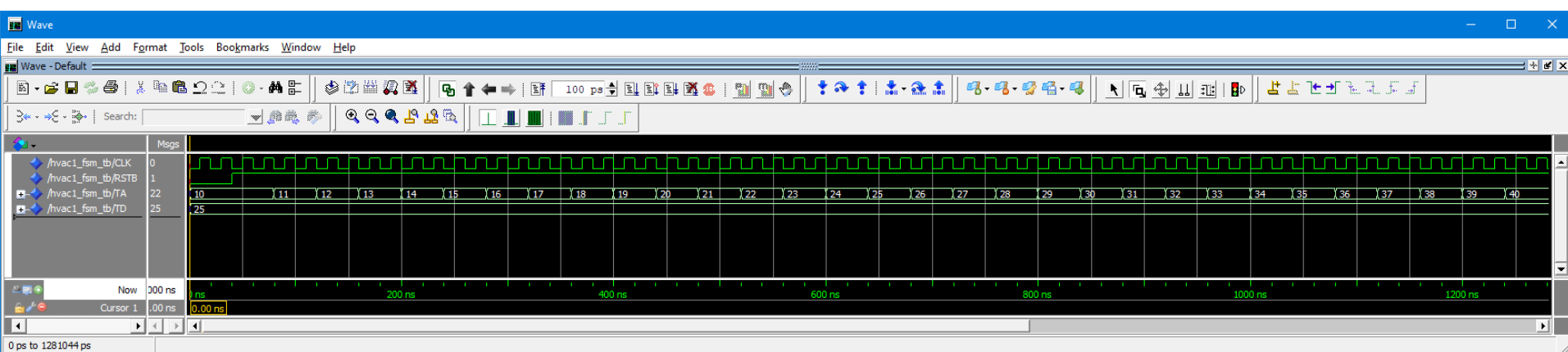
Provide your Code   40 pts
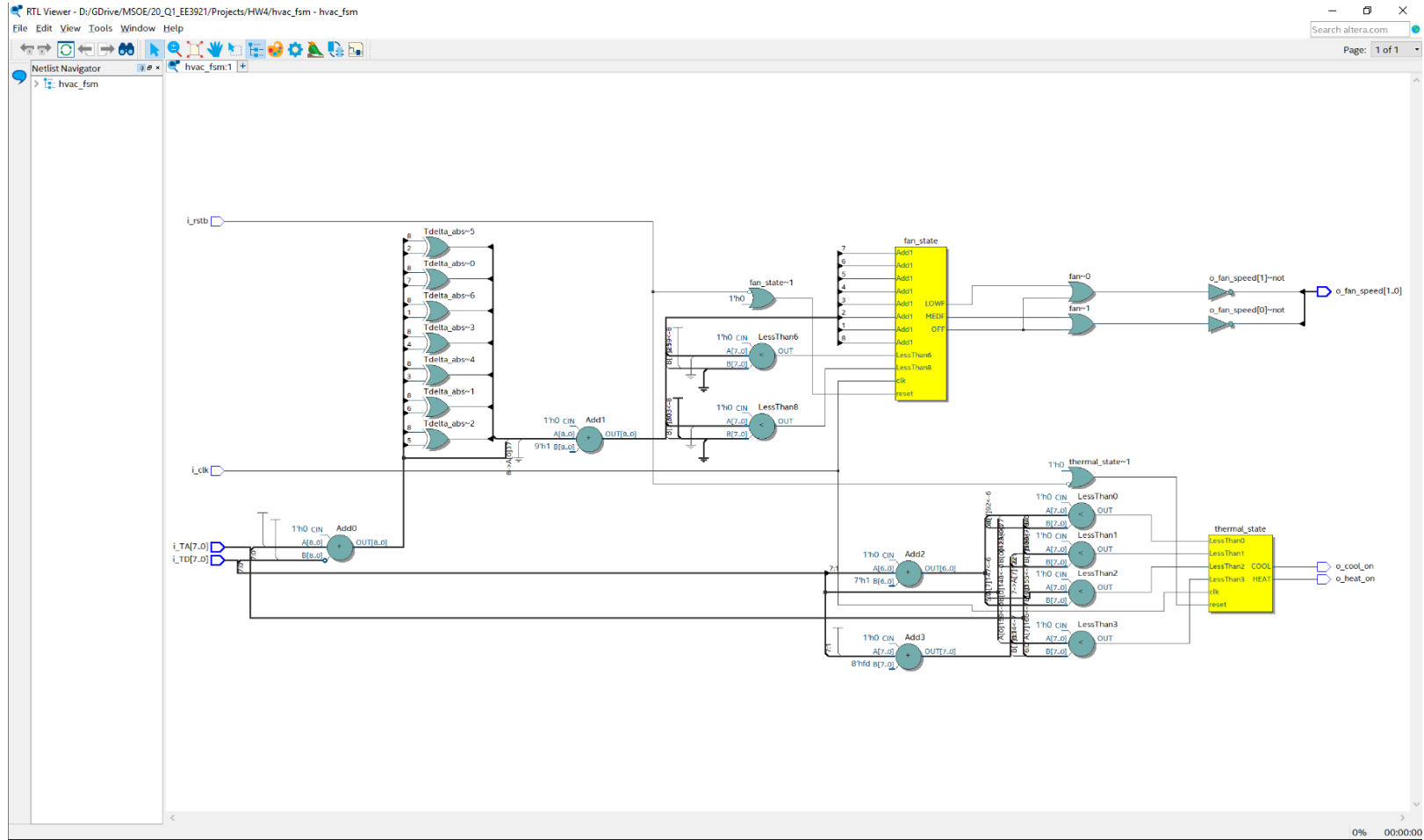
Provide your RTL schematic   10 pts

Provide your Quartus state machine   10 pts

Provide your annotated sim results   40 pts

(add the state signals to your simulation)

State Machine Viewer — D:/GDrive/MSOE/20_Q1_EE3921/Projects/H...

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State Machine: |hvac_fsm|thermal_state

	Source State	Destination State	Condition
1	COOL	IDLE	(LessThan2)
2	COOL	COOL	(ILessThan2)
3	HEAT	IDLE	(LessThan3)
4	HEAT	HEAT	(ILessThan3)

Transitions   Encoding

100%   00:00:03

State Machine Viewer — D:/GDrive/MSOE/20_Q1_EE3921/Projects/H...

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State Machine: |hvac_fsm|fan_state

	Source State	Destination State	
1	HIGHF	HIGHF	(IAdd1).(IAdd1).(IAdd1).(IAdd1).(IAdd1) + (IA
2	HIGHF	MEDF	(IAdd1).(IAdd1).(IAdd1).(IAdd1).(Add1) + (IA
3	LOWF	LOWF	(IAdd1).(IAdd1).(IAdd1).(IAdd1).(Add1).(ILes
4	LOWF	MEDF	(IAdd1).(IAdd1).(IAdd1).(IAdd1).(IAdd1) + (IA

Transitions   Encoding

0%   00:00:00

States added
| Tdelta | added