b. Ventilation Fan – A fan has two settings (On or Automatic). Turn on the fan when the fan is on automatic and it is hot or when the fan is on. Use a switch to control the fan and use a temperature sensor to detect temperature.

Switch (S) = Automatic = 0, Fan On = 1
Temperature (T) = Not Hot = 0, Hot = 1

Fan (F) = Fan Off = 0, Fan On = 1

\[ F = \overline{ST} + ST + \overline{ST} \]