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

S	T	F
0	0	0
0	1	1
1	0	1
1	1	1

$$\mathbb{F} = \bar{S}T + S\bar{T} + ST$$

