# Pseudocode – Smart Cooling Fan Simulation

BEGIN  
  
 Get input values from user (Ta, T0, Tmax, L, sim\_time)  
  
 Initialize time array and temperature array  
 Set initial temperature T[0] = T0  
  
 FOR each time step i from 1 to sim\_time DO  
  
 Get current temperature T[i-1]  
  
 IF T < 40  
 Set FanSpeed = Low  
 fanLevel = 0.2  
 ELSE IF T < 60  
 Set FanSpeed = Medium  
 fanLevel = 0.5  
 ELSE  
 Set FanSpeed = High  
 fanLevel = 1.0  
 END IF  
  
 Calculate heat = alpha × L  
 Calculate cooling = beta × fanLevel  
 Calculate ambient loss = gamma × (T[i-1] - Ta)  
  
 Compute next temperature:  
 T[i] = T[i-1] + heat - cooling - ambient  
  
 IF T[i] >= Tmax THEN  
 Set Status = Shutdown  
 Set FanSpeed = Off  
 BREAK loop  
 ELSE  
 Set Status = Running  
 END IF  
  
 END FOR  
  
 Display temperature and fan speed plots  
 Export temperature data to Excel  
  
END  
Khosrow Yameen  
22119672