### Common Protocol

1. **//-------------------------------------------------------<Reading Msgs>**
2. // print the string when a newline arrives:
3. while(Serial.available()>0) { reading=true; message=Serial.readStringUntil('\n');}// end while
4. //Performing Incomming Message
5. if(reading==true)
6. {
7. if((message=="#Dataset\_on") ||(message == Board+":Dataset\_on")){generateDataset=true; Serial.println("generateDataset=on");}
8. else if((message=="#Quick") ||(message == Board+":Quick")) {set\_defaults(); dly=0; Serial.println("Recieve Quickly");}
9. else if((message=="#Normal")||(message == Board+":Normal")) {dly=100; Serial.println("Set to Normal");}
10. else if((message=="#Dataset\_off")||(message == Board+":Dataset\_off"))
11. {generateDataset=false;Serial.println("generateDataset=off");}
12. else if((message=="#Feed\_Changes\_on") ||(message == Board+":Feed\_Changes\_on"))
13. {Feed\_Changes\_Only=true; Serial.println("Feed\_Changes\_on"); Feed\_Seconds=0;}
14. else if((message=="#Feed\_Changes\_off")||(message == Board+":Feed\_Changes\_off"))
15. {Feed\_Changes\_Only=false; Serial.println("Feed\_Changes\_off");}
16. //time
17. else if((message=="#Time=0")||(message == Board+":Time=0")){Feed\_Seconds=0;}// send information according to state changes
18. else if(message.indexOf("Time")>0)
19. { int x=message.indexOf('='); x = message.substring(x+1, message.length()).toInt(); Feed\_Seconds=x;
20. Feed\_Changes\_Only=false; Serial.print("time");Serial.println(x);}
21. //condition
22. else if((message=="#Temp\_on")|| (message == Board+":Temp\_on")) {FanTempCondition=true; Serial.println("Temp\_on");}
23. else if((message=="#Temp\_off")||(message == Board+":Temp\_off")) {FanTempCondition=false; Serial.println("Temp\_off");}
24. else if((message=="#LDR\_on")|| (message == Board+":LDR\_on")) {LedLdrCondition =true; Serial.println("LDR\_on");}
25. else if((message=="#LDR\_off")|| (message == Board+":LDR\_off")) {LedLdrCondition =false; Serial.println("LDR\_off");}
26. else if((message=="#Feed\_Temp\_on") ||(message == Board+":Feed\_Temp\_on")||(message=="#TempSensor")||
27. (message==Board+":TempSensor")){ Feed\_Temp=true; Serial.println("Feed\_Temp\_on");}
28. else if((message=="#Feed\_Temp\_off")||(message == Board+":Feed\_Temp\_off"))
29. {Feed\_Temp=false; Serial.println("Feed\_Temp\_off");}
30. else if((message=="#Feed\_LDR\_on") ||(message == Board+":Feed\_LDR\_on") ||
31. (message=="#PhotoCell") ||(message==Board+":PhotoCell")) { Feed\_LDR=true; Serial.println("Feed\_LDR\_on");}
32. else if((message=="#Feed\_LDR\_off") ||(message == Board+":Feed\_LDR\_off" ))
33. {Feed\_LDR=false; Serial.println("Feed\_LDR\_off"); }
34. //commands
35. else if((message == "#Open")|| (message == Board+":Open"))
36. { digitalWrite(TestPin, HIGH); Serial.print(Board+":"); Serial.println("Connected"); }
37. else if((message == "#Close")||(message == Board+":Close"))
38. { digitalWrite(TestPin, LOW); Serial.print(Board+":"); Serial.println("Disconnected"); set\_defaults();}
39. else if((message == "#Who")|| (message == Board+":Who"))
40. { Serial.println(Who\_I\_AM()); digitalWrite(TestPin, HIGH);Serial.print(Board+":"); Serial.println("Connected");}
41. //Which To Feed
42. else if((message=="#All")||(message == Board+":All"))
43. { Which\_To\_Feed="All"; Serial.println("All");}// Feed\_Temp=true; Feed\_LDR=true;
44. else if((message=="#Led")||(message == Board+":Led"))
45. { Which\_To\_Feed="Led"; Serial.println("Led");}
46. else if((message=="#Fan")||(message == Board+":Fan"))
47. { Which\_To\_Feed="Fan"; Serial.println("Fan");}
48. else if((message=="#BtSwitch")||(message == Board+":BtSwitch"))
49. { Which\_To\_Feed="Switch"; Serial.println("Switch");}
50. else if((message=="#IR")||(message == Board+":IR"))
51. { Which\_To\_Feed="IR"; Serial.println("IR");}
52. else ;// Serial.println("It has no code to handel");
54. reading=false;
55. }// end if message available or dataset\_generation process