

ConsoleApp-Week1\Program.cs

```
1 using System;
2 using System.IO.Ports;
3
4 class Program {
5     const int BAUDRATE = 115200;
6     private SerialPort _serialPort;
7     private int _lastValue = -1;
8     private int _minValue = int.MaxValue;
9     private int _maxValue = int.MinValue;
10
11     static void Main(string[] args) {
12         var program = new Program();
13
14         Console.WriteLine("Available Serial Ports:");
15         var portNames = program.PortNames; //get list of port names
16         foreach (var port in portNames) {
17             Console.WriteLine(port);
18         }
19         if (portNames.Length > 0) {
20             var latestPort = portNames[portNames.Length - 1]; //get last port cuz new usb
from pico usually be the last port
21             Console.WriteLine($"Opening port \"{latestPort}\"");
22
23             try
24             {
25                 program.OpenConnection(latestPort, BAUDRATE);
26
27                 program.PrintHelp();
28
29                 bool stop = false;
30                 while (!stop) {
31                     stop = !program.Run();
32
33                     if (!stop && Console.KeyAvailable) {
34                         ConsoleKeyInfo keyInfo = Console.ReadKey(true);
35                         char key = keyInfo.KeyChar;
36
37                         if (key == 'o') {
38                             program.Send("LedOn");
39                         } else if (key == 'f') {
40                             program.Send("LedOff");
41                         } else if (key == 'h') {
42                             program.PrintHelp();
43                         } else if (key == 'q' || key == 'Q') {
44                             stop = true;
45                         }
46
47                         if (keyInfo.Key == ConsoleKey.Escape)
48                             stop = true;
49                     }
50                 }
51             }
```

```
52         catch (Exception ex) {
53             Console.WriteLine($"Exception: {ex.Message}");
54         }
55     }
56     else
57         Console.WriteLine("No serial ports found.");
58
59 }
60
61 Program(){
62     _serialPort = new SerialPort();
63 }
64
65 ~Program(){
66     CloseConnection();
67 }
68
69 public string[] PortNames{
70     get { return SerialPort.GetPortNames(); } // Get list of port names
71 }
72
73 public void OpenConnection(string portName, int baudRate){
74     CloseConnection();// Close it, in case it was open.
75
76     _serialPort.PortName = portName;
77     _serialPort.BaudRate = baudRate;
78     _serialPort.DtrEnable = true; // Data Terminal Ready
79     _serialPort.RtsEnable = true;// Request to Send
80
81     _serialPort.Open();
82
83     if (_serialPort.BytesToRead > 0){
84         // Clear the buffer to prevent reading old data.
85         _serialPort.DiscardInBuffer();
86     }
87 }
88
89 public void CloseConnection(){
90     if (_serialPort != null && _serialPort.IsOpen)
91         _serialPort.Close();
92 }
93
94 public bool Run(){
95     if (_serialPort.BytesToRead > 0){
96         // Data is available to read
97         string message = _serialPort.ReadLine().Trim();// Remove any trailing newline
or whitespace
98
99         int value;
100         if (int.TryParse(message, out value)){ // string -> int
101             if (value != _lastValue){
102                 _lastValue = value;
103
104                 if (value < _minValue) _minValue = value;
```

```
105         if (value > _maxValue) _maxValue = value;
106
107         Console.WriteLine($"Data = {value}, Min = {_minValue}, Max =
{_maxValue}");
108     }
109     } else {
110         // Just print the text, do NOT stop the program
111         Console.WriteLine(message);
112     }
113 }
114 return true;
115 }
116
117 public void Send(string text){
118     if (_serialPort.IsOpen)
119         _serialPort.WriteLine(text);
120 }
121
122 public void PrintHelp(){
123     Console.WriteLine("Commands:");
124     Console.WriteLine(" o = LED on");
125     Console.WriteLine(" f = LED off");
126     Console.WriteLine(" h = help");
127     Console.WriteLine(" q, Q, ESC = quit");
128 }
129 }
130
```