Phidgets	program
touchSensor tips: 1) If you have multiple sensors, using setChannel() method. The example shows how to work with two touch sensors. 2) Use the method `setVoltageRatioChangeTrigger()` To define how the ratio change event is triggered. The example on the right shows that when the change is above 0.5, then the event is triggered! 3) VoltageRatioInput works better for touch sensors.	VoltageRatioInputExample.java

```
    com.phidget22.Log.enable(LogLevel.INFO, null);
 8
 9      VoltageRatioInput ch0 = new VoltageRatioInput();
10      ch0.setChannel(0);
11
12      VoltageRatioInput ch1 = new VoltageRatioInput();
13       ch1.setChannel(1);
14      ch0.addAttachListener(
15         new AttachListener() {
16            public void onAttach(AttachEvent ae) {
17               VoltageRatioInput phid = (VoltageRatioInput) ae.getSource();
18               try {
19                  if(phid.getDeviceClass() != DeviceClass.VINT){
20                     System.out.println("channel " + phid.getChannel() + " on device " +
phid.getDeviceSerialNumber() + " attached");
21                     phid.setVoltageRatioChangeTrigger(0.5);
22                  }
23                  else{
24                     System.out.println("channel " + phid.getChannel() + " on device " +
phid.getDeviceSerialNumber() + " hub port " + phid.getHubPort() + " attached");
25                  }
26               }
27               catch (PhidgetException ex) {
28                  System.out.println(ex.getDescription());
29               }
30            }
31         });
32
33      ch1.addAttachListener(
34         new AttachListener() {
35            public void onAttach(AttachEvent ae) {
36               VoltageRatioInput phid = (VoltageRatioInput) ae.getSource();
37               try {
38                  if(phid.getDeviceClass() != DeviceClass.VINT){
39                     System.out.println("channel " + phid.getChannel() + " on device " +
phid.getDeviceSerialNumber() + " attached");
40                     phid.setVoltageRatioChangeTrigger(0.5);
41                  }
42                  else{
43                     System.out.println("channel " + phid.getChannel() + " on device " +
phid.getDeviceSerialNumber() + " hub port " + phid.getHubPort() + " attached");
44                  }
45               }
46               catch (PhidgetException ex) {
47                  System.out.println(ex.getDescription());
48               }
49            }
50         });
51      ch0.addVoltageRatioChangeListener(
52         new VoltageRatioInputVoltageRatioChangeListener() {
53            public void onVoltageRatioChange(VoltageRatioInputVoltageRatioChangeEvent e) {
54               System.out.printf("Voltage Ratio Changed at channel 0: %.3g\n",
e.getVoltageRatio());
55            }
56         });
57      ….
```

4) Using multiple servos:

Tip:

a) The example uses 4 servos

RCServo4Example.java

```
7       com.phidget22.Log.enable(LogLevel.INFO, null);
8       RCServo[] ch=new RCServo[4];
9
10      for(int i=0; i<4;i++)
11      {
12         ch[i] = new RCServo();
13         ch[i].setChannel(i);
14      }
15
16      ch[0].addAttachListener(
17         new AttachListener() {
18            public void onAttach(AttachEvent ae) {
19               RCServo phid = (RCServo) ae.getSource();
20               try {
21                  if(phid.getDeviceClass() != DeviceClass.VINT){
22                     System.out.println("channel " + phid.getChannel() + " on device "
23                        + phid.getDeviceSerialNumber() + " attached");
24                  }
25                  else{
26                     System.out.println("channel " + phid.getChannel() + " on device "
27                        + phid.getDeviceSerialNumber() + " hub port "
28                        + phid.getHubPort() + " attached");
29                  }
30               }
31               catch (PhidgetException ex) {
32                  System.out.println(ex.getDescription());
33               }
34            }
35         });
36
…
57
58      ch[0].addTargetPositionReachedListener(
59         new RCServoTargetPositionReachedListener() {
60            public void onTargetPositionReached(RCServoTargetPositionReachedEvent e) {
61               System.out.printf("Target Position Reached: %.3g\n", e.getPosition());
62            }
63         });
64
65      try {
66         System.out.println("Opening and waiting 5 seconds for attachment...");
67         for( int i=0;i<4;i++)
68            ch[i].open(5000);
69
70
71         System.out.println("Setting target position to 90");
72         for( int i=0;i<4;i++)
73            ch[i].setTargetPosition(90.0);
74
75         System.out.println("Setting engaged");
76         for( int i=0;i<4;i++)
77            ch[i].setEngaged(true);
78
79         System.out.println("\n\nSetting target position to 180 for 5 seconds\n\n");
80         for( int i=0;i<4;i++)
81            ch[i].setTargetPosition(180);
82         Thread.sleep(5000);
83
84         System.out.println("\n\nSetting target position to 0 for 5 seconds\n\n");
85         for( int i=0;i<4;i++)
86            ch[i].setTargetPosition(0);
87
88         Thread.sleep(5000);
89
90         System.out.println("\n\nSetting target position to 90 for 5 seconds\n\n");
91         for( int i=0;i<4;i++)
92            ch[i].setTargetPosition(90);
93
94         Thread.sleep(5000);
95
96         for( int i=0;i<4;i++)
97
98            ch[i].close();
99
```

Text LCD:

Tip:

Mainly coped from phidget web.

But add two statements:

`setBacklight()`

LCDExample.java

```
LCD ch = new LCD();

      ch.addAttachListener(
         new AttachListener() {
            public void onAttach(AttachEvent ae) {
               LCD phid = (LCD) ae.getSource();
               try {
                  if(phid.getDeviceClass() != DeviceClass.VINT){
                     System.out.println("channel " + phid.getChannel() + " on
device " + phid.getDeviceSerialNumber() + " attached");
                  }
                  else{
                     System.out.println("channel " + phid.getChannel() + " on
device " + phid.getDeviceSerialNumber() + " hub port " + phid.getHubPort() + "
attached");
                  }
                  if(ae.getSource().getDeviceID() == DeviceID.PN_1204){
                     System.out.println("Setting arbitrary screen size");
                     phid.setScreenSize(LCDScreenSize.DIMENSIONS_1X8);
                  }
               }
               catch (PhidgetException ex) {
                  System.out.println(ex.getDescription());
               }
            }
         });

      try {
         System.out.println("Opening and waiting 5 seconds for attachment...");
         ch.open(5000);
         ch.setBacklight(0.9);
         System.out.println("Writing 'Phidgets' for 10 seconds");
         ch.writeText(LCDFont.DIMENSIONS_5X8, 0, 0, "Phidgets");
         ch.flush();
         Thread.sleep(10000);
         ch.setBacklight(0);
         ch.close();
         System.out.println("\nClosed LCD");
      }
      catch (PhidgetException ex) {
```

LED light: The following address shows how to connect LED with interfacekit https://www.phidgets.com/docs/1018_User_Guide	DigitOutputExample.java