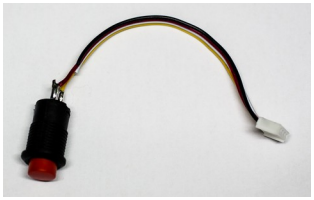
Exercise 2 -- Control an LED with a Button

The document **Packages.pdf** in **ada-remoteio-tutorial/** contains annotated package specifications for the packages that you will be using during this tutorial session. For this exercise you will need to reference the packages **GPIO** and **GPIO.RemoteIO**.

Hardware Setup



Plug the button assembly from the tutorial hardware kit into Grove socket **J2** (Raspberry Pi Zero) or **J4** (BeagleBone Green). This attaches the button to Remote I/O channel 1. The LED remains attached to Remote I/O channel 0.

Instructions

Your goal for this exercise is to create a program the controls an LED from a button: Push the button and the LED turns on. Release the button and the LED turns off.

You will accomplish this goal by building on **test_led** from Exercise 1. You will need to add code to configure a second GPIO pin as an input, read the button state and change the LED state.

1. In **gps**, right click on the **.** directory in the **Project** tab and select **New** → **Ada Main Unit**.

2. In the **Create Ada Main Unit** dialog box, enter **test_button_led** and click **OK**.

3. In the **Confirmation** dialog box, click **No**. A new tab with a stub for **test_button_led** will appear.

4. Now go back to the **test_led** tab and do **Edit** → **Select All** and then **Edit** → **Copy**.

5. Now go back to the **test_button_led** tab and do **Edit** → **Select All** and then **Edit** → **Paste**.

6. You are ready to begin coding the button and LED test!

Start by changing **test_led** to **test_button_led** in **test_button_led.adb**.

7. When you are ready to compile, do **Build** → **Project** → **Build <current file>**.

8. When you are ready to test, do View → OS Shell and then enter one of the commands:

.\test_button_led ***or*** **./test_button_led**