Install the Simple IDE software used to program the ActivityBot

The Simple IDE software is available on the Parallax website at:

http://learn.parallax.com/propeller-c-set-simpleide/windows

The software is already on the USB Stick handed out in class. Plug in the USB stick and run the file:

Simple-IDE_1-0-2-RC2_i686-Win.exe

Follow the installation instructions by clicking "Next" until done.

Run the Simple IDE software program.

Click Tools -> Update Workspace

Click the Browse button in the dialog box that appears.

Browse to and select the "Learn-Folder-Updated-2014-11-07.zipside" file on the USB stick.

Wait while the software updates the files. It will take about 10 seconds.

We're now ready to start programming!

Connect the PC to the ActivityBot

Plug the USB cable into the PC and into the ActivityBot

Turn the power switch on the ActivityBot to position 1

Our 1st ActivityBot program, moving straight

This program will drive the ActivityBot forward for 2 seconds and then stop it.

```
//  Our first ActivityBot program

#include "simpletools.h"                // this is needed for the pause() function
#include "abdrive.h"                    // this is needed for the drive_ramp() function

main ( )
{
  drive_ramp (64, 64);                  // drive both wheels at speed 64 ticks per second
  pause (2000);                         // wait here for 2 seconds (2000 microseconds)
  drive_ramp (0, 0);                    // drive both wheels at speed 0, stop
}
```

Our 2nd ActivityBot program, turning

This program will drive the ActivityBot forward for 2 seconds and then stop it. It will then turn around 180° and drive back and stop.

```
//  Our second ActivityBot program

#include “simpletools.h”                      // this is needed for the pause() function
#include “abdrive.h”                         // this is needed for the drive_ramp() function

main ( )
{
  drive_ramp (64, 64);                       // drive both wheels at speed 64 ticks per second
  pause (2000);                              // wait here for 2 seconds (2000 microseconds)
  drive_ramp (0, 0);                         // drive both wheels at speed 0 ticks per second
  pause (1000);                              // wait here for 1 second (1000 microseconds)
  drive_ramp (32, -32);                      // drive left wheel forward and right wheel backward
  pause (1250);                              // wait here for 1.25 seconds (1250 microseconds)
  drive_ramp (64, 64);                       // drive both wheels at speed 64 ticks per second
  pause (2000);                              // wait here for 2 seconds (2000 microseconds)
  drive_ramp (0, 0);                         // drive both wheels at speed 0 ticks per second
}
```

Our 3rd ActivityBot program, using the Ping sensor

This program will drive the ActivityBot forward until it senses it is 20 centimeters (about 8 inches) away from the wall and then it will stop.

```
//  Our third ActivityBot program

#include “simpletools.h”                  // this is needed for the pause() function
#include “abdrive.h”                     // this is needed for the drive_ramp() function
#include “ping.h”                       // this is needed for the ping() function

main ( )
{
  drive_ramp (64, 64);                 // drive both wheels at speed 64 ticks per second
  while (ping_cm(8) > 20)              // while the robot is more than 20 cm (8 inches)
  {
    pause (50);                        // wait a short time (50 milliseconds)
  }

  drive_ramp (0, 0);                   // drive both wheels at speed 0 ticks per second
}
```