Making the ActivityBot360 robot move

[JJK: Updated 2023 for ActivityBot 360 robots] [Updated 2025 for NRC Maze lessons JSL]

You will need SimpleIDE software installed on your computer to program the ActivityBot360 robot. Mr. La Favre will assist you in installing the software. **Please do not attempt to install the software without assistance.**

Connect the PC to the ActivityBot360

Plug the USB cable into the PC and into the ActivityBot360
Turn the power switch on the ActivityBot360 to position 1

Our 1st ActivityBot360 program, moving straight

This program will drive the ActivityBot360 forward for 2 seconds and then stop it.

```
// Our first ActivityBot program

#include "simpletools.h" // this is needed for the pause() function
#include "abdrive360.h" // needed for the drive_speed() function

int main( )
{
drive_speed(64, 64); // drive both wheels at speed 64 ticks per second (60 RPM)
pause(2000); // wheels will spin for 2 seconds (2000 microseconds)
drive_speed(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 "abdrive360.h" // this is needed for the drive_speed() function

int main( )
{
drive_speed(64, 64); // drive both wheels at speed 64 ticks per second
pause(2000); // wait here for 2 seconds (2000 microseconds)
drive_speed(0, 0); // drive both wheels at speed 0 ticks per second
pause(1000); // wait here for 1 second (1000 microseconds)
drive_speed(32, -32); // drive left wheel forward and right wheel backward
pause(1250); // wait here for 1.25 seconds (1250 microseconds)
drive_speed(64, 64); // drive both wheels at speed 64 ticks per second
pause(2000); // wait here for 2 seconds (2000 microseconds)
drive_speed(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 "abdrive360.h" // this is needed for the drive_speed() function
#include "ping.h" // this is needed for the ping() function

int main( )
{

while(ping_cm(17) > 20) // while robot is more than 20 cm from wall in front
{
drive_speed(64, 64); // drive both wheels at speed 64 ticks per second
pause(50); // wait a short time (50 milliseconds)
}
drive_speed(0, 0); // stop robot
}
```

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