

Getting Started with Robot-C

Installing the application

To begin the installation, you must already have a Robot-C license. It is included with your VEX kit purchase. To obtain other licenses, you may contact the CRC and we will be able to provide you with one for an additional cost. Once this is in place, download the robot-c application at the following address and following the installation instructions. It is important that you download the Robot-C version designed for VEX IFI.

<http://www.robotc.net/download/vex/>

Driver installation

It's important to install the driver to allow your computer to communicate with the robot. To do this, click on the driver installation link. It's a simple enough procedure: just choose the driver that matches your operating system on the following page.

<http://www.robotc.net/download/vex/>

A short guide on installing the driver is also available. However, if you don't have the CD it will be impossible to follow the guide to the letter. Note: to finish the installation, you must disconnect and reconnect the USB cable.

Firmware update

Before we begin, let's understand what firmware is. Firmware is the equivalent to Windows for the VEX controller. It provides the interface required to program the robot. From time to time bugs turn up in the equipment and the company that makes the VEX kits must fix the problem, which it does through an update. This is why it's always important to have up-to-date firmware!

http://www.robotc.net/vex_full/

1. Click *setup*.
2. Click *download firmware*
3. Follow the instructions in the short video.

Your first program

We're off! Your first program! On the same page as before, there is a link: download. Click on this link and follow the instructions in the video. It is not necessary to have built a robot to write a test program. Simply plug in a motor on motor port 3. If all goes well, running the program will cause the motor to rotate in one direction. Interestingly, in the examples code folder, there are examples for all kinds of applications. This is a good starting point to begin learning. Take the opportunity to look at the example that is under *remote control*.

Practical considerations

Here is a list of tips that allowed me to get out of a variety of programming situations.

1. Think before acting: before programming, ensure that you have an idea of what it is you want to accomplish.
2. Dissect the problem: Before you try to make everything work all at once, cut the problem into smaller parts and work through them one step at a time. For example, first run a motor then two motors and the steering system. Go step by step and save a copy of the file with each step is completed;
3. Code is reusable, especially with features: the point of having different version of the program is to allow it to be reused. This is particularly useful in the case of functions. Just copy and paste function in the new program to use it. (PS: a function is a set of instructions grouped into a single block, this reduces the number of lines of code on the screen when you want to repeat the same sequence).
4. Code craves comments: even if you are a programming genius and you know exactly how your code works, it is important to leave comments so that in two months you remember how your code works. In addition, it makes it easier if someone else (for example the following year) reuse your code. To add a comment, there are two methods. To comment on a single line, start a line of code with **// your comment here**. For a multiple-line comment, start your comment with the following symbol **/*** and finish with the symbol ***/**. For example, **/* this is a multiple-line comment which describes the potato function */**
5. Debugging: if something doesn't work, don't panic and above all, do not throw things out the window! A fairly simple debugging technique is to comment out some lines of code in order to identify the error. If the program does not initially work, but by commenting out the line 17 the program works, then the problem is at line 17.

Conclusion

This guide helped you get started quickly in the use of robot-C. If you have any suggestions for additions or comments, email me at simon@robo-crc.ca ! And don't forget the forums!

Good luck!