

# Mars Rover Scoring Program Instructions

The Mars Rover scoring program is a Java program that requires the Java Virtual Machine (JVM) to be installed. First let me answer a question. Is Java safe? Java is very safe. What is not safe is an old feature to allow Java to be started from inside a web browser. Java Web Start is a separate option of Java that should be turned off. This can be done by changing a check box inside the control panel. The following link explains how to disable Java inside a web browser. [http://www.java.com/en/download/help/disable\\_browser.xml](http://www.java.com/en/download/help/disable_browser.xml) Most current web browser have this feature disabled by default. But I still recommend making sure the option is turned off.

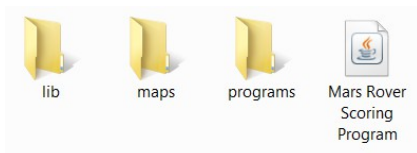
If you already have Java installed, then you can continue on to the next section. To install the Java Virtual Machine, click this link and follow the instructions. Just click the Free Java Download button. <http://www.java.com/en/> FYI: You do not need to install the search toolbar options for the Rover Navigator program to work.

## Installing Rover Program

The program, sample maps, and sample program are sent out in a compress file with the extension '.zip'. The file will appear as a folder with a zipper. The folder is small enough to be sent via email. Currently less than 1MB.




- 1) Right click the file and select the option "Extract All..." It is recommended to either extract the files on your desktop or document folder. Just remember where you place the folder.
- 2) View the contents of the folder. The following is an example of inside the folder.



OR

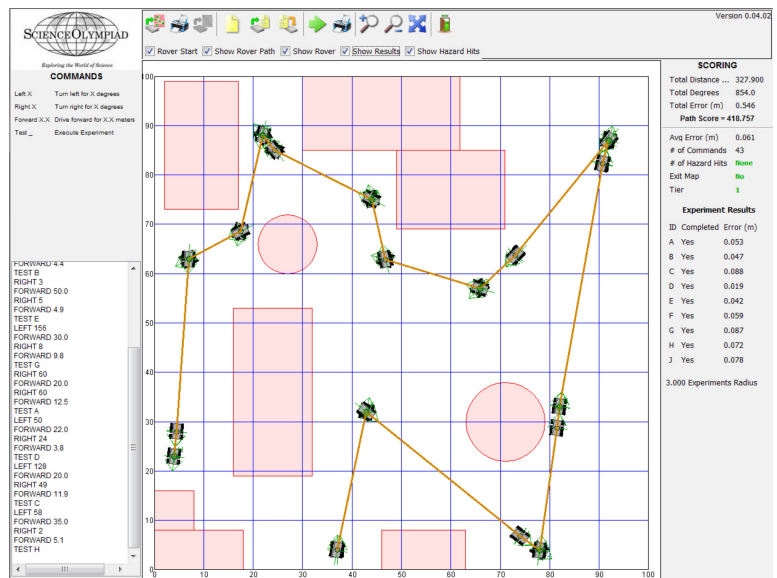
Name	Type
lib	File folder
maps	File folder
programs	File folder
Mars Rover Scoring Program	Executable Jar File

Note: If the file does not have the  icon, then Java is not installed. Follow the instructions above before continuing.





- 3) Double click the file "Mars Rover Scoring Program". This will start the actual program. With Java there is no install program or process. Just unzip the file and double click the program.

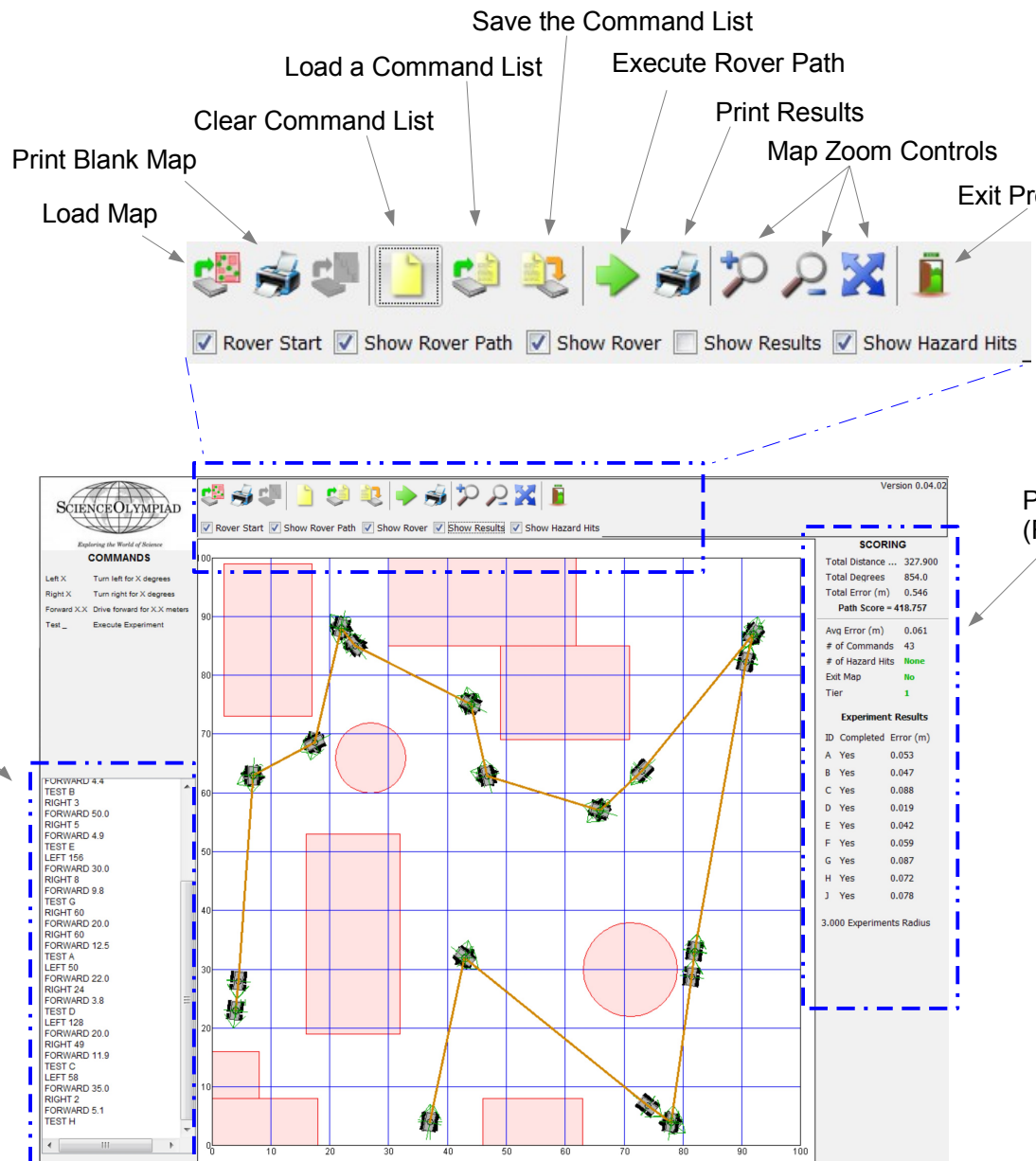
## Uninstalling the Rover Program

- Since there is no install program, just delete the folder.



# How to Use the Program

- 1) Load a map by clicking this  icon. Sample maps are included with the program under the map directory. A map should always be loaded first.
- 2) Enter the commands for the rover in the command area. Or use the Load Program  icon to load a sample program from the programs directory.
- 3) Click the Execute Rover Path  icon. A dialog box with Team # and School name will appear. These field can be left blank when testing. Click the "Run/Update" button to run the command list. This will show the rover's path and calculate the path score. Any changes to the command list are execute by clicking Execute Rover Path icon.
- 4) By default the path score results are turned off. Click the Show Results check box to view the results.
- 5) The program can be save by using the Save Program  icon.



The screenshot shows the Science Olympiad program interface. At the top is a toolbar with icons for various functions. Annotations with arrows point to specific icons: "Load Map" (Load Map icon), "Print Blank Map" (Printer icon), "Clear Command List" (Eraser icon), "Load a Command List" (Load Program icon), "Save the Command List" (Save icon), "Execute Rover Path" (Execute Rover Path icon), "Print Results" (Printer icon), "Map Zoom Controls" (Zoom in/out icons), and "Exit Program" (Exit icon). Below the toolbar are checkboxes for "Rover Start", "Show Rover Path", "Show Rover", "Show Results", and "Show Hazard Hits".

The main window is divided into three sections:

- Command Lists:** A list of commands on the left, including "FORWARD 4.4", "TEST B", "RIGHT 3", "FORWARD 50.0", "RIGHT 5", "FORWARD 4.9", "TEST E", "LEFT 158", "FORWARD 30.0", "RIGHT 8", "FORWARD 9.8", "TEST G", "RIGHT 80", "FORWARD 20.0", "RIGHT 60", "FORWARD 12.5", "TEST A", "LEFT 50", "FORWARD 22.0", "RIGHT 24", "FORWARD 3.8", "TEST D", "LEFT 128", "FORWARD 20.0", "RIGHT 49", "FORWARD 11.9", "TEST C", "LEFT 58", "FORWARD 35.0", "RIGHT 2", "FORWARD 5.1", and "TEST H".
- Map:** A central grid showing a rover's path (orange line) and obstacles (red rectangles and circles). The grid has axes from 0 to 100.
- Path Score (Results):** A panel on the right showing scoring information.
 

SCORING	
Total Distance ...	327.900
Total Degrees	854.0
Total Error (m)	0.546
Path Score	418.757
Avg Error (m)	0.061
# of Commands	43
# of Hazard Hits	None
Exit Map	No
Tier	1
Experiment Results	
ID	Completed Error (m)
A	Yes 0.053
B	Yes 0.047
C	Yes 0.088
D	Yes 0.019
E	Yes 0.042
F	Yes 0.059
G	Yes 0.087
H	Yes 0.072
J	Yes 0.078
3,000 Experiments Radius	