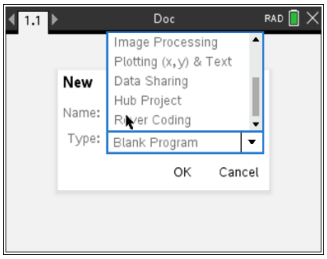
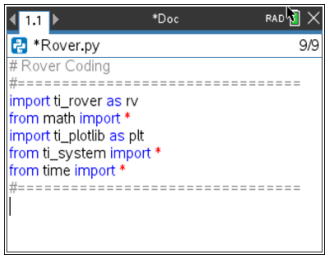
QUICK START GUIDE

The TI-Innovator™ Rover and TI-Nspire™ CX II Graphing Calculator

Begin a new Python program:

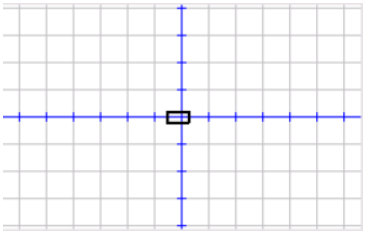
- Open a new document on the TI-Nspire™ CX II graphing calculator.
- Select the **Rover Coding** template from the **Type**: dropdown after entering the name of the program. (Note: The name of this program is “Rover.”)
- Select **OK** and you will see the import statements as shown on the far-right screenshot.





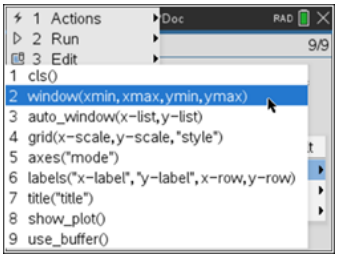
Rover and the Cartesian coordinate plane:

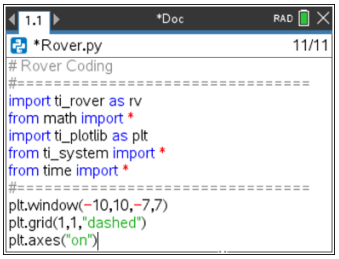
- Rover has a built-in coordinate system just like a Cartesian graphing system.
- When you **import ti_rover as rv**, Rover’s position on the coordinate grid is set to (0,0) and its heading is 0 degrees (pointing toward the positive x-axis or east on a map).
- The default coordinate and driving unit is 10 cm.



Turn on the on-screen coordinate plane:

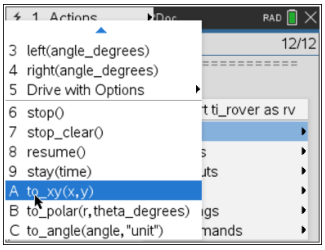
- Press: **Menu > TI PlotLib > Setup**
- Follow these steps for each: window, grid and axes:
  - plt.window(-10,10,-7,7)
  - plt.grid(1,1,"dashed")
  - plt.axes("on")

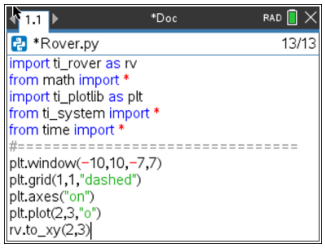




Make Rover drive to a point in the coordinate plane:

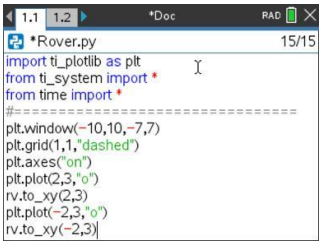
From the origin, move Rover to a point in quadrant 1 on the calculator and the surface where Rover moves, such as (2,3):





- » Press **Enter** to create a new program row.
- » Press: **Menu > TI PlotLib > Draw > plot(x,y,“mark”)**
- » Enter the x and y coordinates as shown.
- » The mark selects how you want the point to appear on the calculator screen.
- » Press: **Menu > TI Rover > Drive > to_xy(x,y)**
- » Enter the x and y coordinates as shown.
- » Connect the calculator and Rover, then turn on the Rover.
- » Press **Ctrl R** to run the program.

Make Rover create a reflection in the y-axis:



- » Go back to page 1.1.
- » Press **enter** to create a new program row.
- » Press: **Menu > TI PlotLib > Draw > plot(x,y, “mark”)**
- » Enter the x and y coordinates which create a reflection in the y-axis of the previously entered point.
- » Press **Menu > TI Rover > Drive > to_xy(x,y)**
- » Enter the same x and y coordinates as above.
- » Connect the calculator and Rover, then turn on Rover.
- » Press **Ctrl R** to run the program.

Sample actions:

- » Move Rover to a point in each quadrant.
- » After plotting a point, create other transformations of the point such as:
  - » Reflection in the x-axis.
  - » Translation of x and y coordinates.