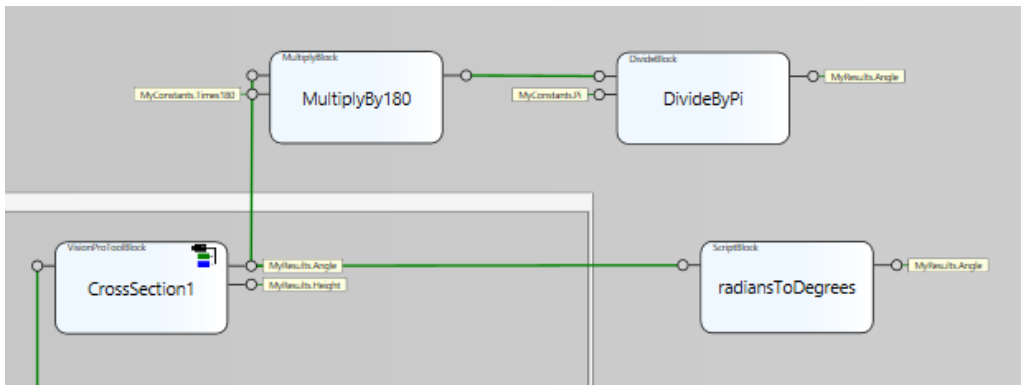
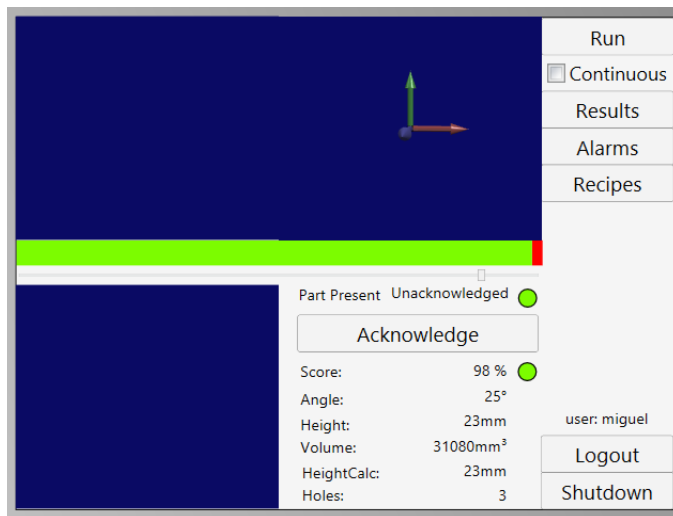


Cognex Designer Advanced – Section 4
Scripting Lab
Approximate Duration: 30 minutes

EXPECTED OUTCOMES:

- Add Script to convert Radians to Degrees
- Show angle information on HMI with degree symbol

EXPECTED VISUAL RESULT:



OUTLINE OF LAB:

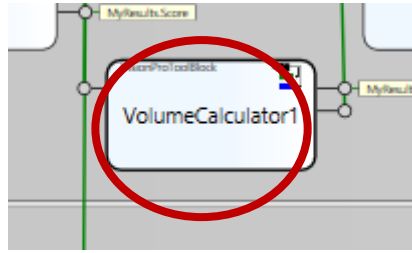
1. Add Script to Convert Radians to Degrees
 - a. Add ToolBlock
 - b. Create Script
 - c. Save new tool into ToolBox
2. Add Angle information to HMI
 - a. Add degree symbol
3. Add Key Script to automatically bring up login page

Challenge: Have the application get rid of the username and password of the last user whenever the Login page is shown.

Steps for the Lab:

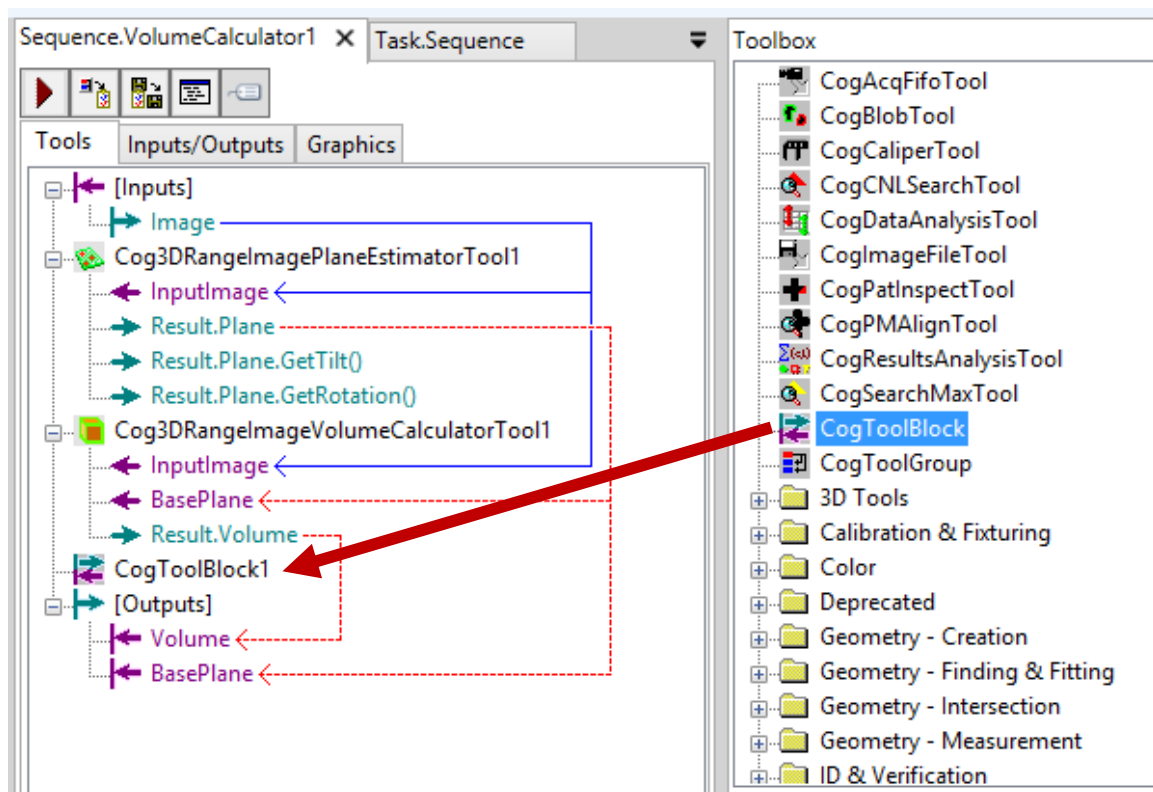
1. Add Script to Convert Radians to Degrees

- Go to the VolumeCalculator ToolBlock and double click to open it

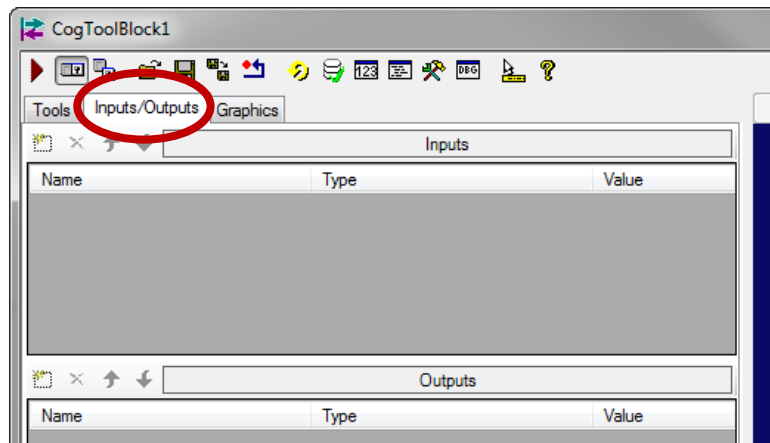


a. Add ToolBlock

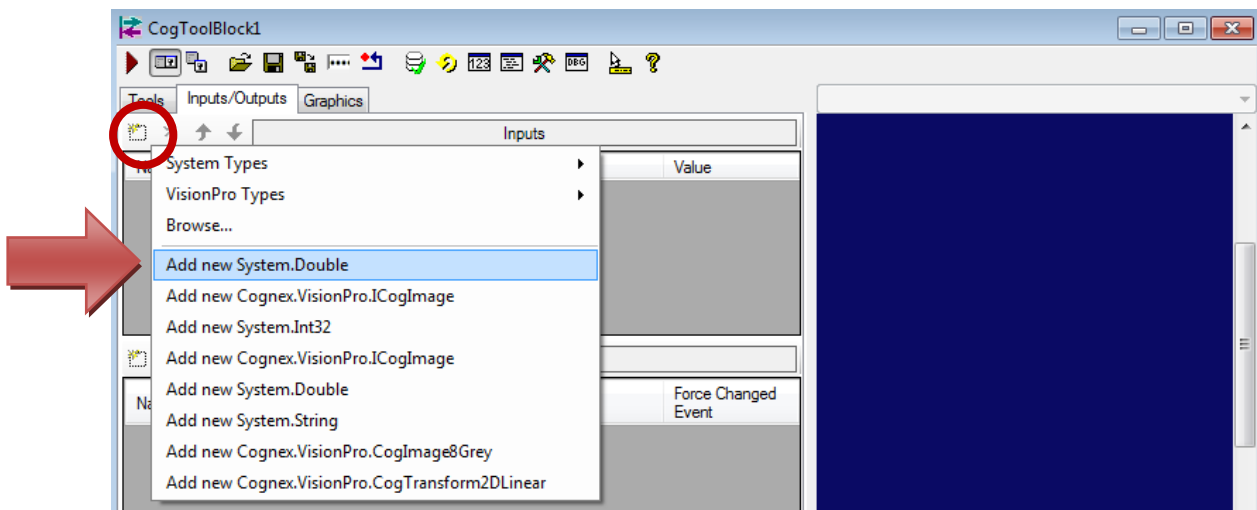
- Add a ToolBlock from the Toolbox



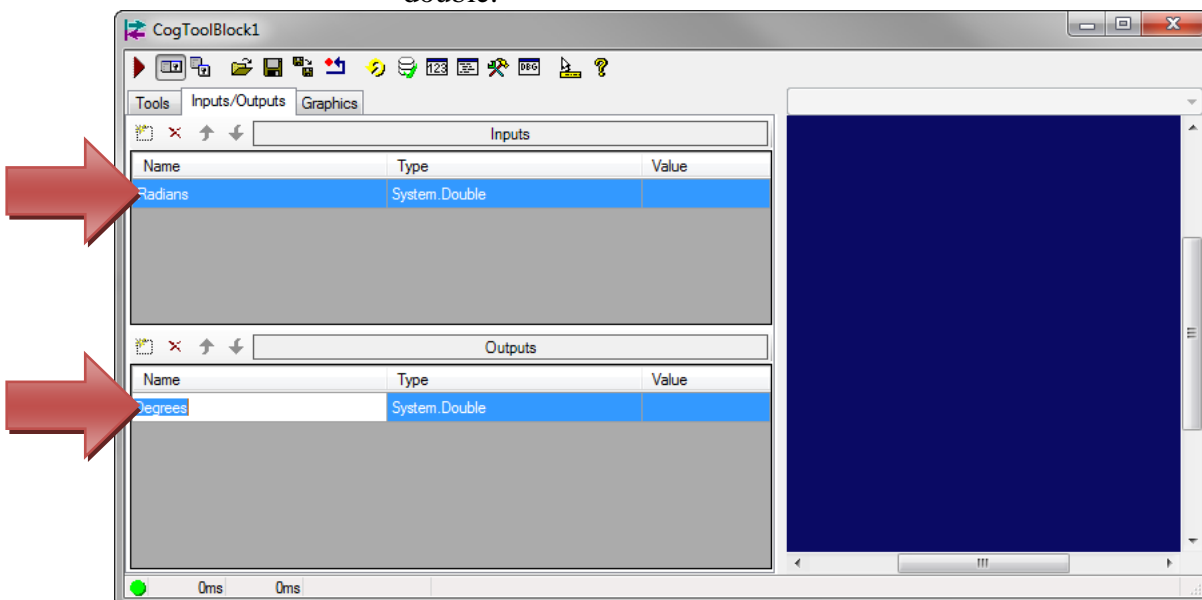
ii. Open the new CogToolBlock1 and go to the Input/Output Tab



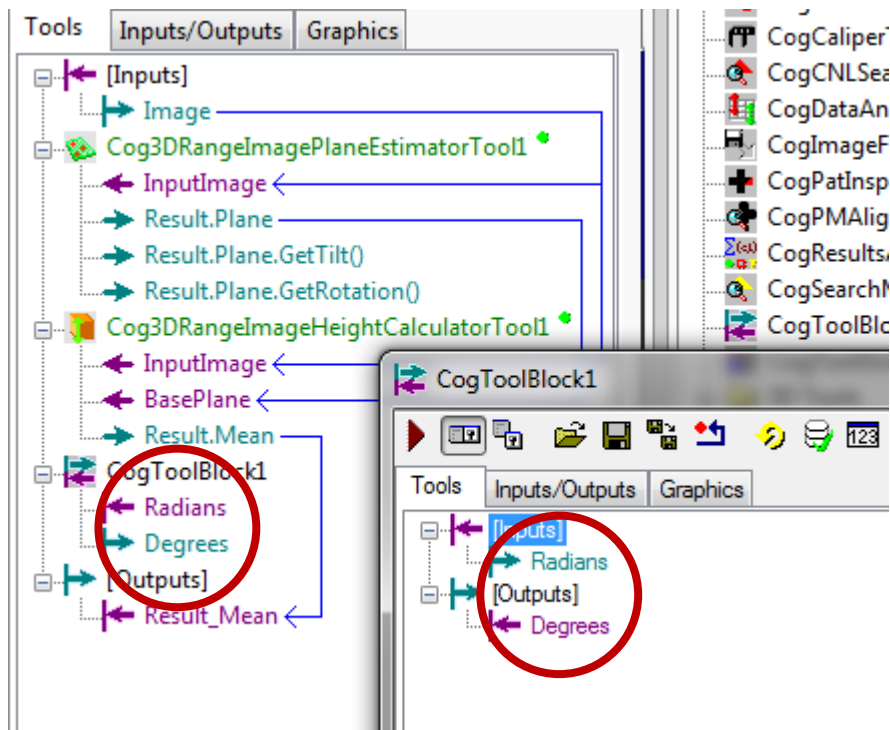
iii. Add an input of type Double



iv. Name it "Radians". Also add an output named "Degrees" of type double.

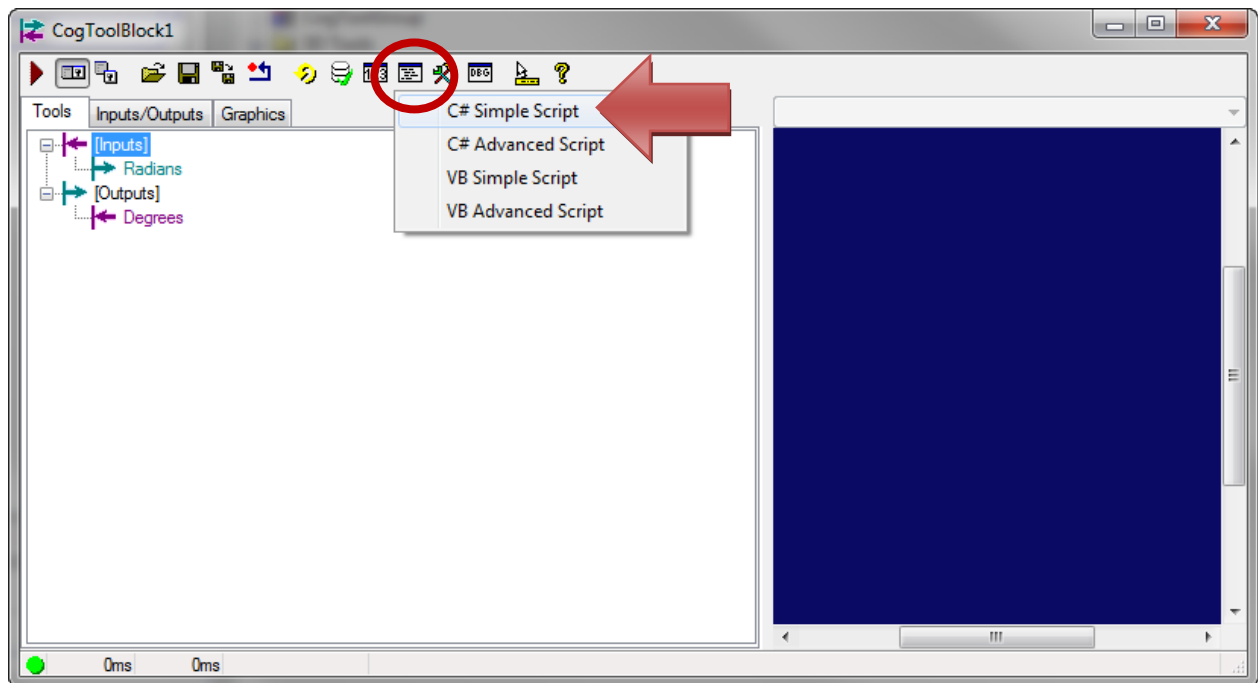


- v. Note the terminals created for the tool



a. Create Script

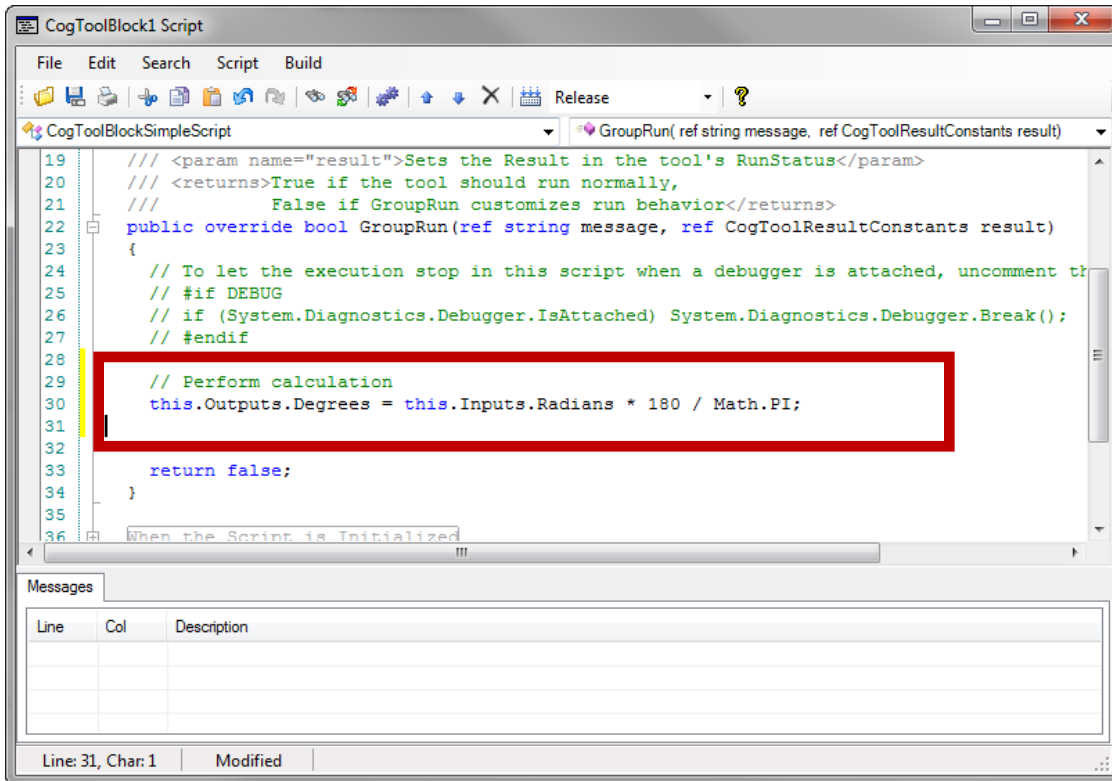
- i. Go to the Tools tab and Select the Edit Script Button. Choose C# Simple.



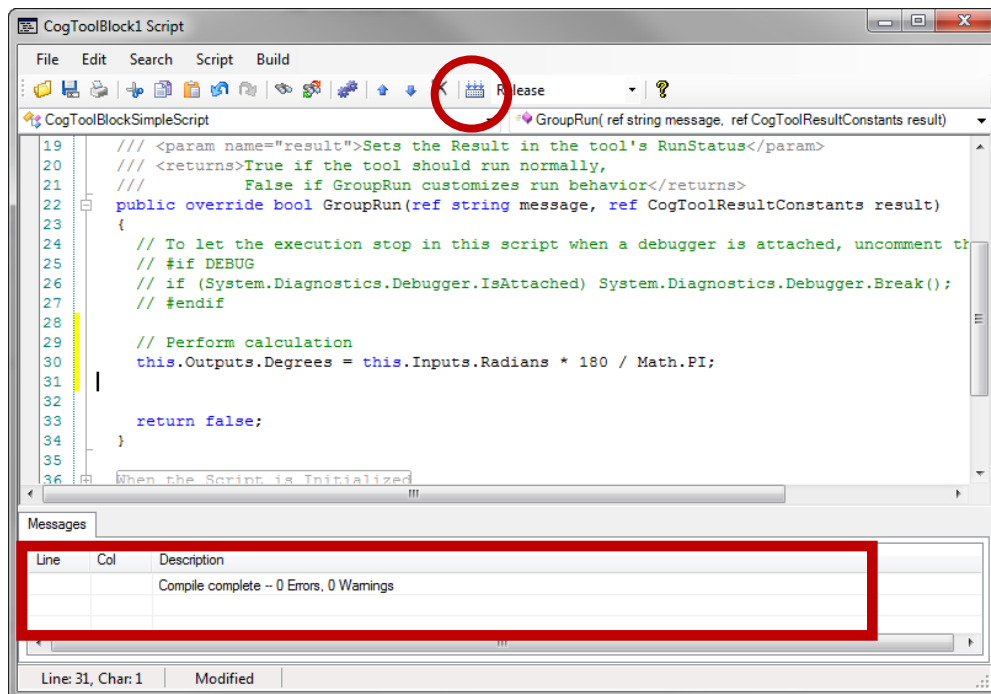
ii. Add the following code to the script:

```
// Perform calculation
```

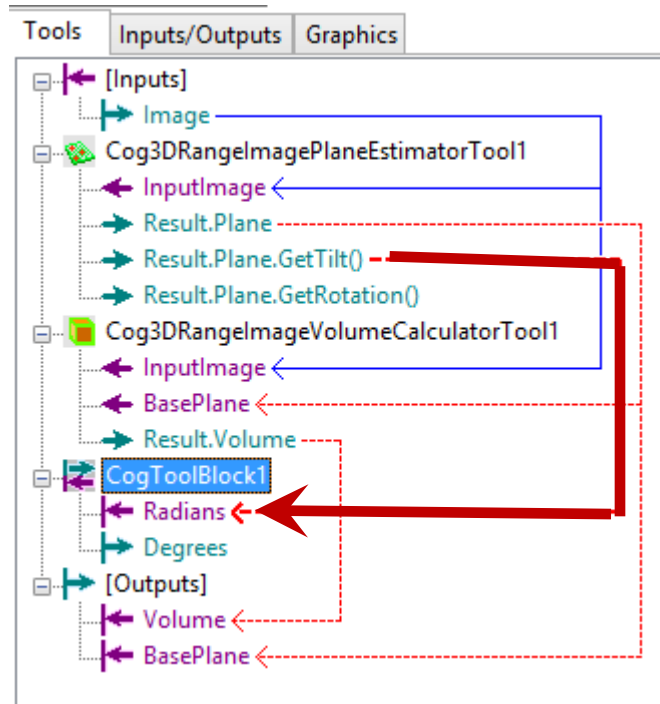
```
this.Outputs.Degrees = this.Inputs.Radians * 180 / Math.PI;
```



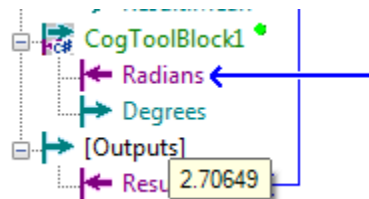
iii. Compile to check to see if there are any errors



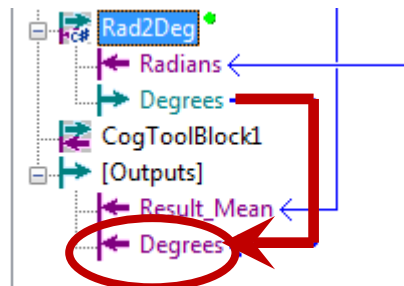
- iv. Close Script and connect the Radians input to the output GetTilt() of the PlaneEstimator tool.



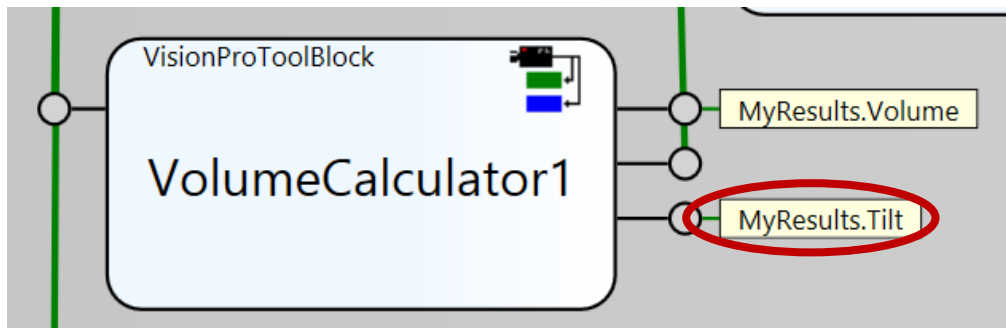
- v. Run ToolBlock once and check values



- vi. Rename the tool "Rad2Deg" and drag the Degrees output down to the [Outputs] area so that another pin is available to the HeightTool ToolBlock.

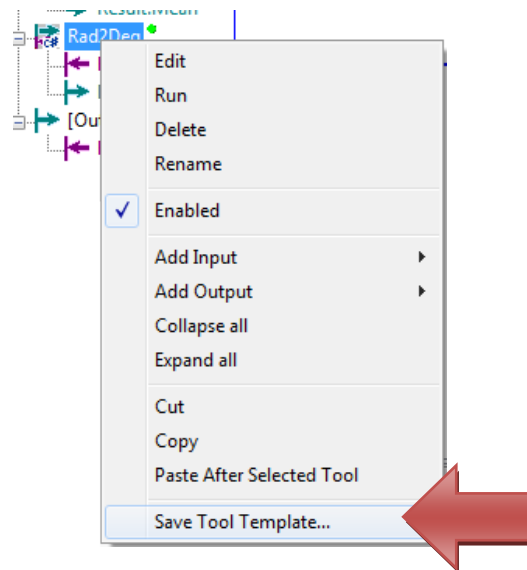


- vii. Add a new tag name “Result.Tilt” to the output pin.

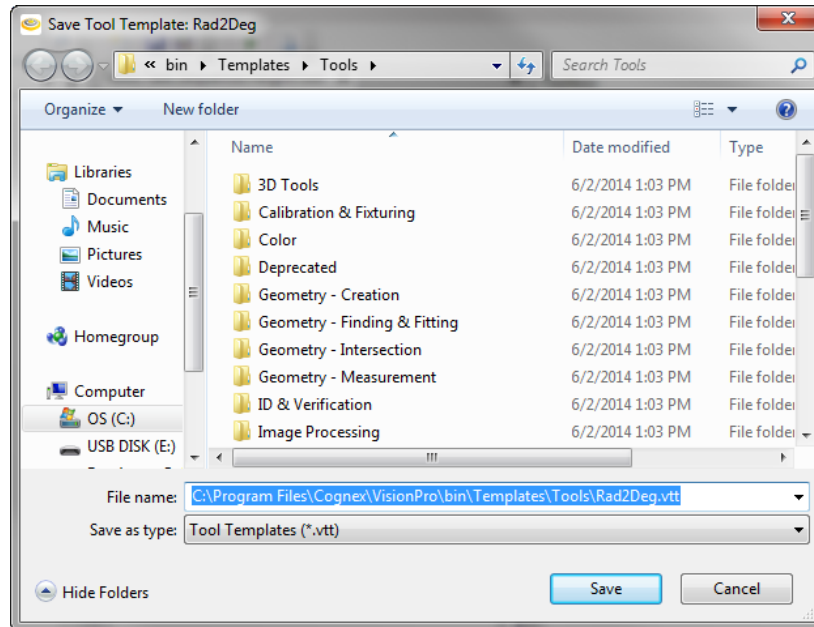


b. Save new tool into ToolBox

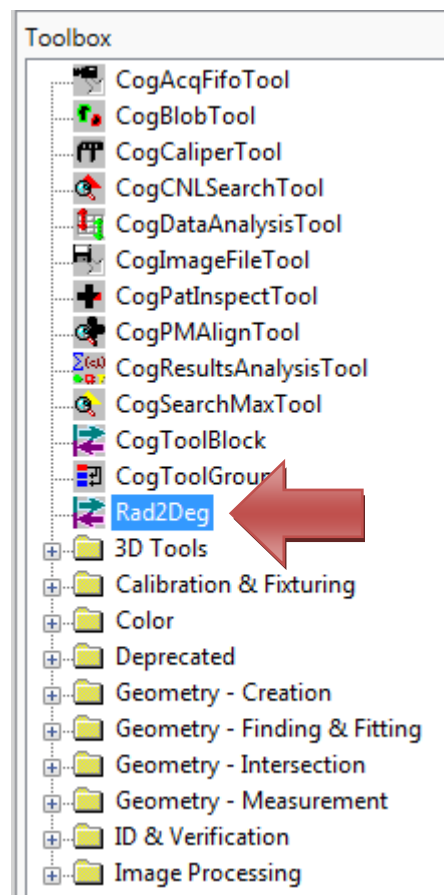
- i. Right-click on the Rad2Deg tool and select “Save to Tool Template”



- ii. Keep the default name (Warning: You must have launched Cognex Designer in Administrator mode to save to this location.)



- iii. Note that the tool now shows up in the ToolBox for VisionPro.



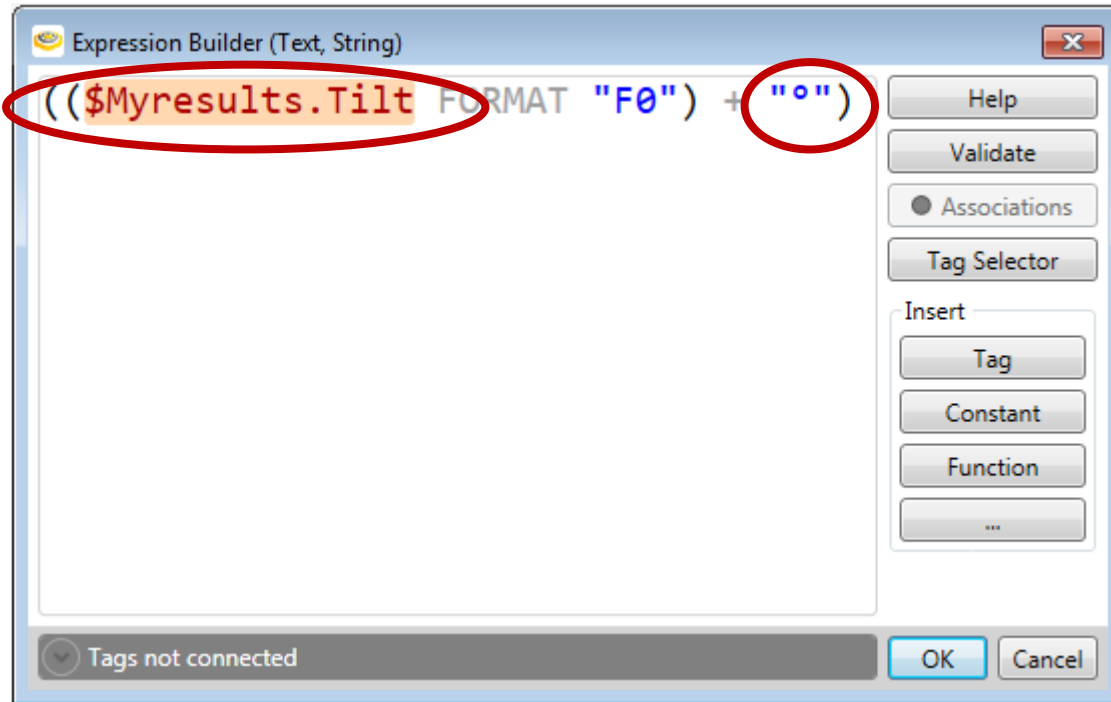
2. Add Angle information to HMI

- Go to the Main Page and re-use the label for “Height (Cross):”. Rename it “Tilt:”

Height (mean):	10.053
Volume:	915.054 mr
Count:	2
Tilt:	22.352
Length	46.468

a. Add degree symbol

- i. Go to the label next to “Tilt:” and have it reference the \$Result.Tilt tag
- ii. Add Formatting and then add “. Give it a space, then hold down the Alt key while typing in 0176 from the keypad. Add another “, then press Accept.

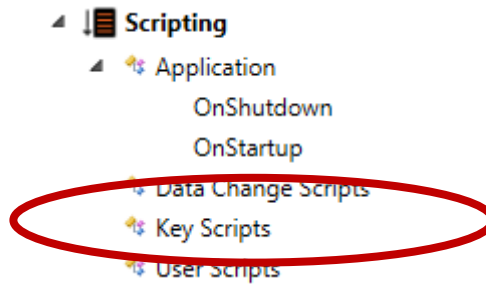


- iii. Go into Test Mode to see the results.

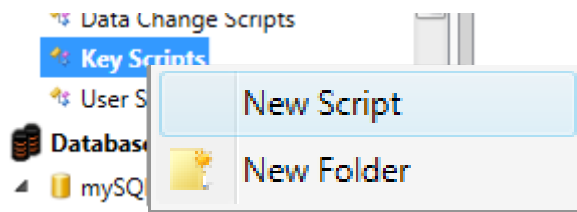
Tilt: 1°

3. Add Key Script to automatically bring up login page

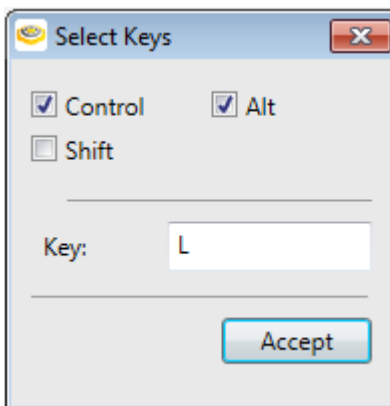
- Go to KeyScripts in the Explorer



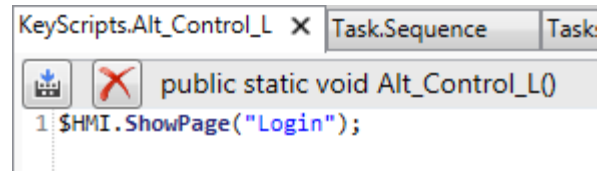
- Right-click to add New Script



- Select Control, Alt, and use the letter “L” for login



- The Script needs to show the Login page



- Go into Test Mode and try it out
- a. **Save the application**

Challenge: Have the application get rid of the username and password of the last user whenever the Login page is shown.

- i. Go into Test Mode and try out the changes



Login Error

User:

Password:

Login

Timestamp	Username	Action	Message
2/19/2015 11:19:48 AM	miguel	Logging In	Successful
2/19/2015 11:19:49 AM		Logging Out	Successful
2/19/2015 11:21:13 AM	miguel	Logging In	Successful
2/19/2015 11:21:15 AM	miguel	Logging Out	Successful
2/19/2015 12:03:21 PM	miguel	Logging In	Successful
2/19/2015 1:51:51 PM	miguel	Logging In	Successful
2/19/2015 1:57:22 PM	miguel	Logging In	Successful
2/19/2015 1:57:31 PM	miguel	Logging Out	Successful
2/19/2015 1:57:33 PM	miguel	Logging In	Successful
2/19/2015 2:07:08 PM	miguel	Logging In	Successful
2/19/2015 2:08:41 PM	miguel	Logging In	Successful
2/19/2015 2:22:25 PM	miguel	Logging In	Successful
2/19/2015 2:51:11 PM	miguel	Logging In	Successful
2/19/2015 3:10:02 PM	miguel	Logging In	Successful
2/19/2015 3:50:49 PM	miguel	Logging In	Successful
2/19/2015 3:57:01 PM	miguel	Logging In	Successful
2/19/2015 4:00:03 PM	miguel	Logging In	Successful

Challenge: Add Audit Table to a separate page that pops up from a button on the login page. Only certain levels can see the Audit Table.