1 Project 4 - Use FindRow Excel Snippet

1.1 Parameter Setup

In this section of the project, you will retrieve data from Excel to set a multi-value list for a parameter, then identify which row will be used when using the FindRow snippet.

1. Using the Intro to CAD & CAE.ipj

2. Open CFR 2RS.ipt.

3. Modify the parameter in Sketch1.
   - Change d1 to RD
4. On the Ribbon, go to the Manage Tab > iLogic Panel > Add Rule

- The Rule Name dialog appears.
- Enter Cam Follower.

5. In the Edit Rule: Cam Follower dialog box, use the If...Then...End If conditional statement from the panel above the program space to insert conditions in the rule.

- Place a \texttt{If...Then...End If} statement.
- Change My\_Expression to \texttt{Units = "Metric"}
- Under the Model tab, click on User Parameters to display them in the Parameters tab
- Under the Parameters tab, above the program space, double-click on UnitMultiplier to add it below your If statement
- Set UnitMultiplier equal to \texttt{1.0 mm}
- Place an ElseIf...Then statement using the pull down menu next to the If...Then...End If button
- Change My\_Expression to \texttt{Units = "Inch"}
- Under the Parameters tab, above the program space, double-click on UnitMultiplier to add it below your ElseIf statement
- Set UnitMultiplier equal to \texttt{1.0 in}

\begin{verbatim}
If Units = "Metric" Then
    UnitMultiplier = 1.0 mm

ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in

End If
\end{verbatim}
6. Open Cam Follower.xls.
   - Note the Title row
   - Under **METRIC SERIES**, they are in Row 2
   - Under **INCH SERIES**, they are in Row 12

7. Add a **TitleRow** snippet
   - In the **System Snippets** tab, expand **Excel Data Links** and scrub over **TitleRow** to see the description
   - Double-click on **TitleRow** to add the snippet below the **If** statement and repeat it under the **ElseIf** statement
   - Set the snippet under the **If** statement equal to 2
   - Set the snippet under the **ElseIf** statement equal to 12

```vbnet
If Units = "Metric" Then
    UnitMultiplier = 1.0 mm
    GoExcel.TitleRow = 2
ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in
    GoExcel.TitleRow = 12
End If
```
8. Set the **MultiValue** List for **BearingNumber**

- Double-click on **MultiValue list from Excel** to add the snippet below the **If** statement and repeat it under the **ElseIf** statement

```vbnet
If Units = "Metric" Then
    UnitMultiplier = 1.0 mm
    GoExcel.TitleRow = 2

ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in
    GoExcel.TitleRow = 12
End If
```
9. Under the **System Snippets**, expand **Parameters** and add **SetValueOptions (on)** before the **If** statement.

```plaintext
MultiValue.SetValueOptions(True, DefaultIndex := 0)

If Units = "Metric" Then
    UnitMultiplier = 1.0 mm
    GoExcel.TitleRow = 2

ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in
    GoExcel.TitleRow = 12

End If
```
10. Under the Parameters tab, above the program space, double-click on RowNumber to add it below your statements

11. Set RowNumber equal to the FindRow snippet under the Excel Data Links

12. Click OK in the Edit Rule dialog box.
   - The rule will run.

13. From the Ribbon Manage Tab > Parameters Panel < select Parameters.
14. In the Parameters dialog box, change the Units and BearingNumber parameters in the Parameters dialog Box.

- Select INCH from the Units pull down menu.
- Select CFR 2RS-2 from the BearingNumber pull down menu.
- Verify RowNumber = 16 ul and that it is the correct row in the spreadsheet.
1.2 Set Parameters from Row

This section of the project you will retrieve data from Excel to set values for parameters using the CurrentRowValue snippet.

15. Right click on Cam Follower and select Edit Rule.

16. Set the parameter RD equal to CurrentRowValue
   - Double click on the RD parameter from the Model Parameters to add it to the program space.

   **NOTE:** This code must be added after the FindRow snippet in the program space.

   ```plaintext
   RowNumber = GoExcel.FindRow("Cam Follower.xls", "Sheet1", "Bearing Number", ",",", BearingNumber) 
   RD = GoExcel.CurrentRowValue("Roller Diameter RD")
   ```
17. Convert the Units
   - Multiply the results from Excel by **UnitMultiplier**

   ```
   RowNumber = GoExcel.FindRow("Cam Follower.xls", "Sheet1", "Bearing Number", ", BearingNumber")
   RD = GoExcel.CurrentRowValue("Roller Diameter RD") * UnitMultiplier
   ```

18. Repeat the previous two steps for **WD**, **SD**, **SL**, **EL**, **HEX**.

   ```
   RowNumber = GoExcel.FindRow("Cam Follower.xls", "Sheet1", "Bearing Number", ", BearingNumber")
   RD = GoExcel.CurrentRowValue("Roller Diameter RD") * UnitMultiplier
   WD = GoExcel.CurrentRowValue("Roller Width WD") * UnitMultiplier
   SD = GoExcel.CurrentRowValue("Stud Diameter SD") * UnitMultiplier
   SL = GoExcel.CurrentRowValue("Stud Length SL") * UnitMultiplier
   EL = GoExcel.CurrentRowValue("Endplate Extension EL") * UnitMultiplier
   HEX = GoExcel.CurrentRowValue("Hex Socket HEX") * UnitMultiplier
   ```

19. Click **OK** in the **Edit Rule** dialog box.

20. Change the **Units** and **BearingNumber** parameter in the **Parameters** dialog box using the pull down box.
1.3 Set Parameters from Row

This section of the project you use iLogic to suppress and unsuppressed features.

21. Add a **Thread** feature
   - Uncheck the **Full Length** check box
   - Set and name the **Length** parameter **TL=10mm**

   ![Thread Feature settings](image)

   - Rename the feature **Metric Thread**.
   - Right click on the feature and select **Suppress Features**
22. Add another Thread feature
   - Set the Length parameter equal to TL
   - On the Specification tab under Thread Type select ANSI Unified Screw Threads

23. Right-click on Cam Follower and select Edit Rule.

24. Suppress the Inch Thread and unsuppress Metric Thread when the units are “Metric”
   - Under the If statement, right-click on the Metric Thread feature and select Capture Current State
   - All the Parameters referenced by the thread are added to the rule.
   - Delete everything but the Feature.IsActive line and set it equal to True

   ```
   If Units = "Metric" Then
     UnitMultiplier = 1.0 mm
     GoExcel.TitleRow = 2
     ' ***Metric Thread***
     Feature.IsActive("Metric Thread") = True
   
   25. Repeat the previous step for the Inch Thread but set it equal to False
26. Under the ElseIf statement repeat the previous two steps but set Metric Thread = False and the Inch Thread = True. Copy and paste can also be used.

```plaintext
ElseIf Units = "Inch" Then
    UnitMultiplier = 1.0 in
    GoExcel.TitleRow = 12
    ' ***Metric Thread***
    Feature.IsActive("Metric Thread") = False
    ' ***Inch Thread***
    Feature.IsActive("Inch Thread") = True
```

27. Add If statements for both the Inch Thread and the Metric Thread at the bottom of the rule.

```plaintext
If Feature.IsActive("Inch Thread") Then
    Feature.ThreadDesignation("Inch Thread") = GoExcel.CurrentRowValue("细牙")
End If

If Feature.IsActive("Metric Thread") Then
    Feature.ThreadDesignation("Metric Thread") = GoExcel.CurrentRowValue("细牙")
End If
```

28. Click OK in the Edit Rule dialog box.

29. Change the Units parameter in the Parameters dialog box using the pull down box.


31. The File result has been provided… it is named CFR 2RS_with_rule.ipt