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```
Sub CreateAndConfigureSump()  
    ' This code creates a new copy of the sump assembly template and places it in our new folder structure  
    ' It then updates the sump geometry based on values we pass to the assembly  
    Dim strNewSumpFilename As String  
    ' This string represents the new name of our unique, copied sump assembly file  
    strNewSumpFilename = PROJECT_PATH & PROJECT_ID & "\Sump Assy\Sump Pipe Assy - " & PROJECT_ID & ".iam"  
  
    ' We first check to make sure the sump assembly file has not been previously created  
    ' If it hasn't yet been created, we do a Windows Copy operation to make a new copy in our new folder  
    ' We also make copies of the part files that will go into our sump assembly  
    If System.IO.File.Exists(strNewSumpFilename) = False Then  
        System.IO.File.Copy(TEMPLATE_PATH & "Sump Assy\Sump Pipe Assy.iam", PROJECT_PATH & PROJECT_ID & "\Sump Assy\Sump Pipe Assy - " & PROJECT_ID & ".iam")  
        System.IO.File.Copy(TEMPLATE_PATH & "Sump Assy\Sump-Angled Pipe.ipt", PROJECT_PATH & PROJECT_ID & "\Sump Assy\Sump-Angled Pipe - " & PROJECT_ID & ".ipt")  
        System.IO.File.Copy(TEMPLATE_PATH & "Sump Assy\Sump-Straight Pipe.ipt", PROJECT_PATH & PROJECT_ID & "\Sump Assy\Sump-Straight Pipe - " & PROJECT_ID & ".ipt")  
        ' This here is a sample of how to make a variable that represents an assembly document  
        ' It uses the Inventor API, which you can use freely (for the most part) throughout iLogic rules  
        Dim oSumpAssy As Inventor.AssemblyDocument  
        ' This statement tells oSumpAssy to represent the newly created file, and opens it up in the Inventor interface  
        oSumpAssy = ThisApplication.Documents.Open(strNewSumpFilename, True)  
        ' When the copied sump assembly initially opens, it will reference the old part files in our template folder  
        ' We need to change that so that the newly copied angle and straight pipe files are referenced by the assembly  
        ' The following code uses the Inventor API functionality to do that  
        ' This is similar to selecting the "Replace Components" command in the Inventor application  
        Dim strOldAnglePipe, strNewAnglePipe As String  
        strOldAnglePipe = TEMPLATE_PATH & "Sump Assy\Sump-Angled Pipe.ipt"  
        strNewAnglePipe = PROJECT_PATH & PROJECT_ID & "\Sump Assy\Sump-Angled Pipe - " & PROJECT_ID & ".ipt"  
        oSumpAssy.File.ReferencedFileDescriptors.Item(strOldAnglePipe).ReplaceReference(strNewAnglePipe)  
        Dim strOldStraightPipe, strNewStraightPipe As String  
        strOldStraightPipe = TEMPLATE_PATH & "Sump Assy\Sump-Straight Pipe.ipt"  
        strNewStraightPipe = PROJECT_PATH & PROJECT_ID & "\Sump Assy\Sump-Straight Pipe - " & PROJECT_ID & ".ipt"  
        oSumpAssy.File.ReferencedFileDescriptors.Item(strOldStraightPipe).ReplaceReference(strNewStraightPipe)  
        ' Once we've updated the file references in the sump assembly file, we can save and then close it  
        oSumpAssy.Save  
        oSumpAssy.Close  
    End If  
  
    ' The sump assembly was created in the exact same orientation as our master tank assembly  
    ' This means we don't need to rotate the sump assembly when placing it into the master tank assembly  
    ' That means we don't need a matrix, but can just define a point (X, Y, Z coordinates) of where to place it  
    Dim pointO = ThisDoc.Geometry.Point(0, -TANK_OD / 2 + SUMP_H, TANK_L / 2)  
    ' This can be taken from an iLogic snippet, and is used to insert components into assemblies  
    ' This code inserts our newly created sump pipe assembly into our master tank assembly file  
    ' Instead of placing at the origin, it places it based on our input point we created (pointO)  
    ' Note that we are grounding all geometry, and we are not using any constraints to place the assembly  
    Dim componentO = Components.Add("Sump Pipe Assembly:1", strNewSumpFilename, position := pointO, grounded := True, visible := True, appearance := Nothing)  
    ' These statements pass parameters from our master assembly file into the sump pipe assembly file  
    Parameter("Sump Pipe Assembly:1", "PROJECT_ID") = PROJECT_ID  
    Parameter("Sump Pipe Assembly:1", "PROJECT_PATH") = PROJECT_PATH  
    Parameter("Sump Pipe Assembly:1", "SUMP_SIZE") = SUMP_SIZE  
    Parameter("Sump Pipe Assembly:1", "SUMP_H") = SUMP_H  
    Parameter("Sump Pipe Assembly:1", "SUMP_PIPE_PROJ") = SUMP_PIPE_PROJ  
    Parameter("Sump Pipe Assembly:1", "TANK_OD") = TANK_OD  
    Parameter("Sump Pipe Assembly:1", "DISH_DEPTH") = DISH_DEPTH  
    ' Once all the parameters are updated in the sump pipe assembly file, we want to run its update rule  
    ' This will allow the sump pipe assembly to update all its own parts and components itself  
    iLogicVb.RunRule("Sump Pipe Assembly:1", "Update Children Parts")
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' Once the sump pipe assembly is created and placed, it still needs an end connection
' This uses the "GetFlangeFilename" function (near the bottom of this rule)
' It will automatically determine the filename based on flange type, flange end connection, and drain size
Dim strFlangeName As String = GetFlangeFilename(SUMP_FL_TYPE, SUMP_FL_END, SUMP_SIZE)
' This uses the "GetFrontOrRearMatrix" function (near the bottom of this rule)
' This will automatically determine the location matrix based on several factors
Dim matrixP = GetFrontOrRearMatrix(SUMP_FL_TYPE, SUMP_FL_END, SUMP_H, SUMP_PIPE_PROJ, SUMP_SIZE, "Front", "Bottom")
' This can be taken from an iLogic snippet, and is used to insert components into assemblies
' This code inserts the selected end connection part or assembly into our master tank assembly file
' Instead of placing at the origin, it places it based on our input matrix we created (matrixP)
' Note that we are grounding all geometry, and we are not using any constraints to place the end connection
Dim componentP = Components.Add("Sump Valve:1", strFlangeName, position := matrixP, grounded := True, visible := True, appearance := Nothing)
End Sub
```