1. Acquire lattice file
   1. Open in Excel
   2. Use text to columns to split data
   3. Save in folder that will be used in following steps
2. Create new part in Inventor
   1. Run Script 1 to create UCS’s
      1. Line 32 – End of loop should be after last line of lattice file
      2. Lines 33-39 – Change Columns for data from lattice file
      3. Select Lattice excel file when prompted
   2. Save File as “UCSs.ipt” in folder with lattice .xlsx file
3. Create new part file
   1. Save file in folder with lattice .xlsx file
   2. Place UCS at Origin with proper orientation for Lattice file– leave default name (UCS1)
   3. Create User parameter called “Length”, set initial value to anything (not 0)
   4. Create sketch on YZ Plane with shape of first element
   5. Extrude sketch Length = “Length”
      1. Symmetric Extrusion
   6. Run Script 2 to create all parts for that element
      1. Line 2 – Change key for current element
      2. Line 19 – Add correct location for Lattice File
      3. Line 26 – End of loop should be after last line of lattice file
      4. Line 28-29 – Change Columns for data from lattice file
      5. Select Lattice excel file when prompted
   7. Save file
   8. SaveAs file for next element type
   9. Change sketch for next element type
   10. Rerun Script 2
       1. Line 2 – Change key for current element
   11. Iterate (f.) and (g.) for all different elements
4. Create new Assembly file
   1. Save file in folder with lattice .xlsx file
   2. Place UCSs.ipt at origin
   3. Run Script 3 to place parts (may take minutes)
      1. Lines 19-21 – Change Columns for data from lattice file
      2. Line 27 – Change directory for element part files
      3. Select Lattice excel file when prompted
   4. Save Assembly

Appendix A – Bmad Coordinate System

![Text, letter

Description automatically generated]()