

# Complicated joint patterns

Tutorial	
Name:	Complicated joint patterns
Description:	Guidelines for creating complicated joint patterns using interactive database editing.
Program:	SAP2000
Version:	14.1.0
Model ID:	na

This tutorial demonstrates the assignment of **complicated joint patterns** using [interactive database editing](#). The process outlined below will follow the development of a model where coordinates are a function of the global Z-axis.

Joint-pattern assignment using interactive database editing proceeds as follows:

1. Define a new joint pattern through Define > Joint Patterns > Add New Pattern > Name.
2. Select Edit > Interactive Database Editing, then select the two tables listed below, as shown in Figure 1:
  - Model Definition > Connectivity Data > Joint Coordinates > Table: Joint Coordinates
  - Model Definition > Joint Assignments > Joint Item Assignments > Table: Joint Pattern Assignments

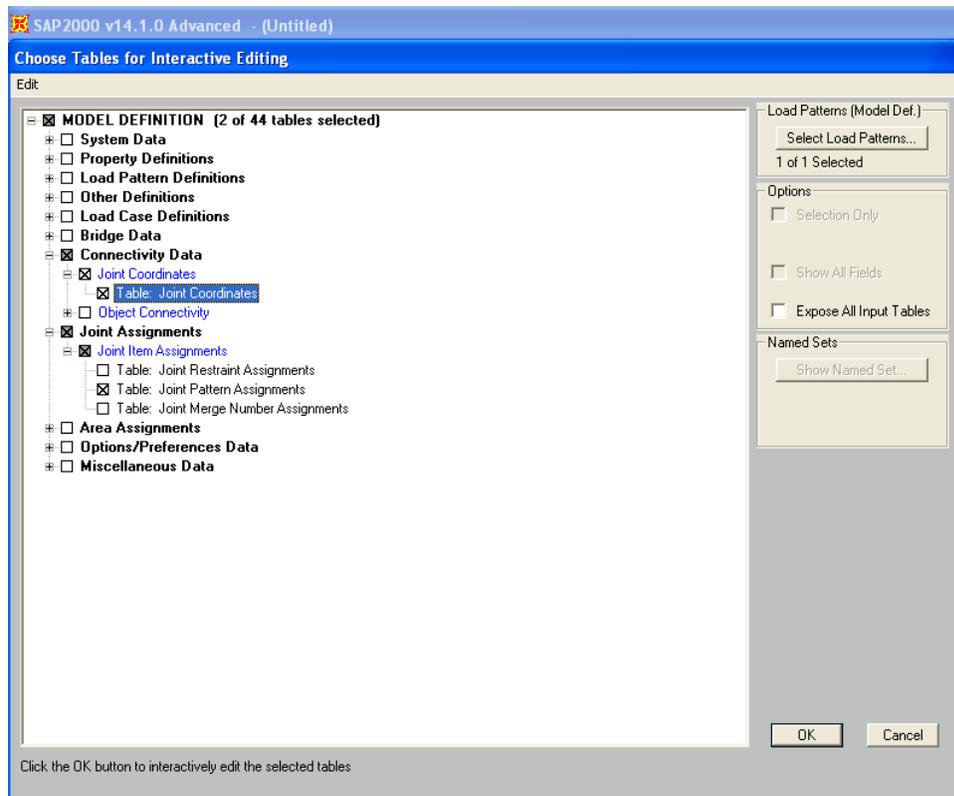


Figure 1 - Select database tables for interactive editing

- To open the Joint Coordinates table in Excel, select OK, then select the Joint Coordinates table from the scroll-down menu, then select the To Excel option. The tables will be presented as shown in Figure 2:

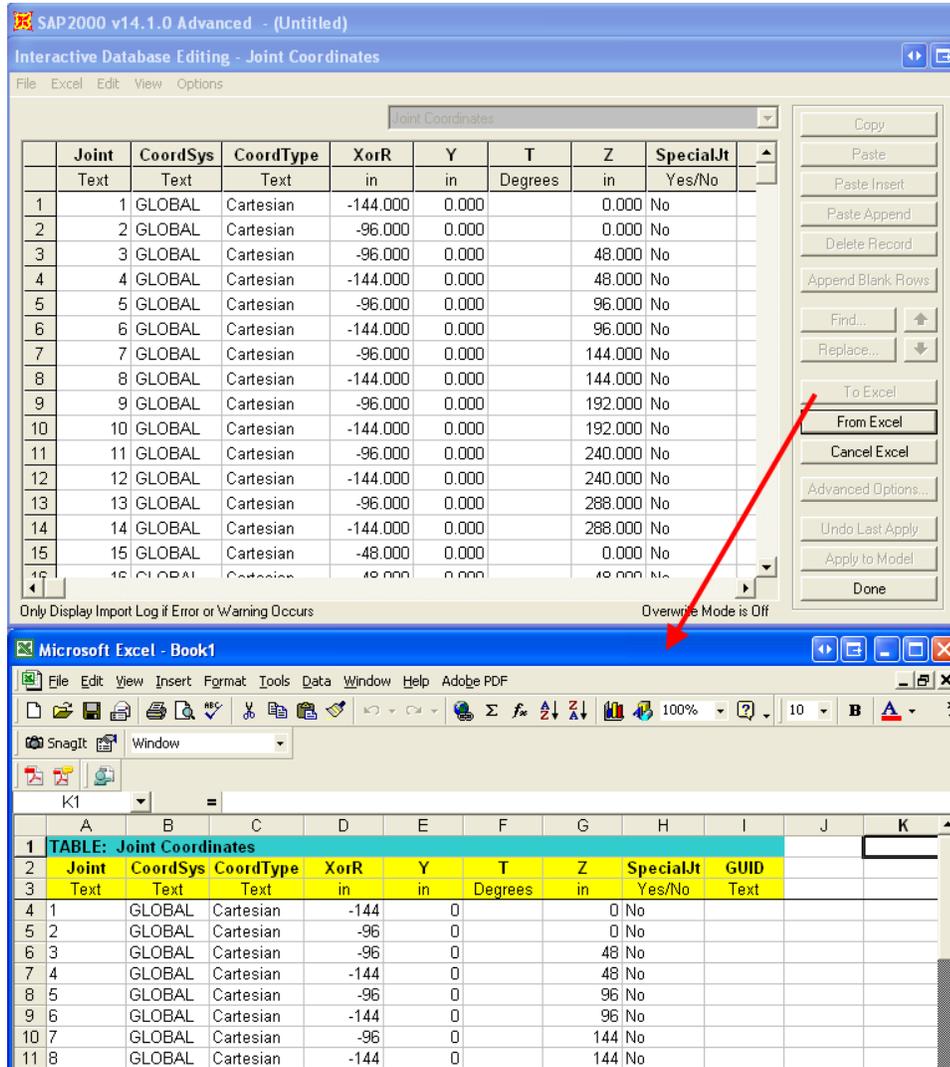


Figure 2 - Joint Coordinates

- Save the Excel file, then in this saved file, create a new column for the joint-pattern values. Specify the values as a function of the Z coordinate for each joint.
- In the Interactive Database Editing menu, select the Cancel Excel option.

6. Select the Joint Pattern Assignments table in the scroll-down menu, then select To Excel to open the table in Excel. From the previously saved Excel file, copy and paste columns, including joint labels and joint-pattern values, to this new Excel file. Select From Excel > Done to update SAP2000 database tables, as shown in Figure 3:

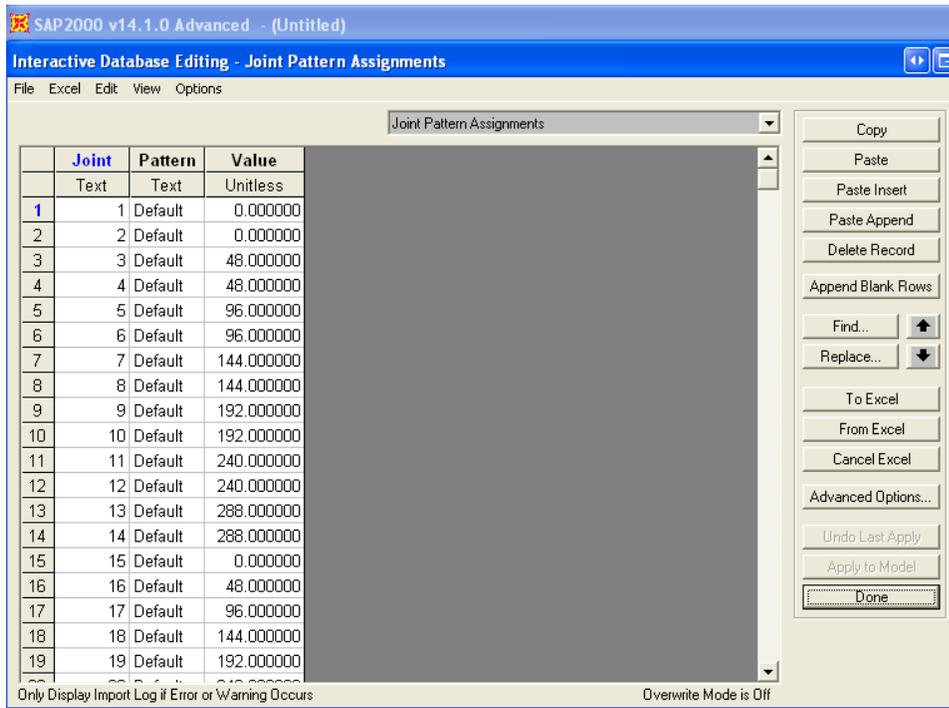


Figure 3 - Joint-pattern assignment

7. Finally, select Display > Show Misc Assigns > Joints to graphically review the joint pattern assignments, as shown in Figure 4:

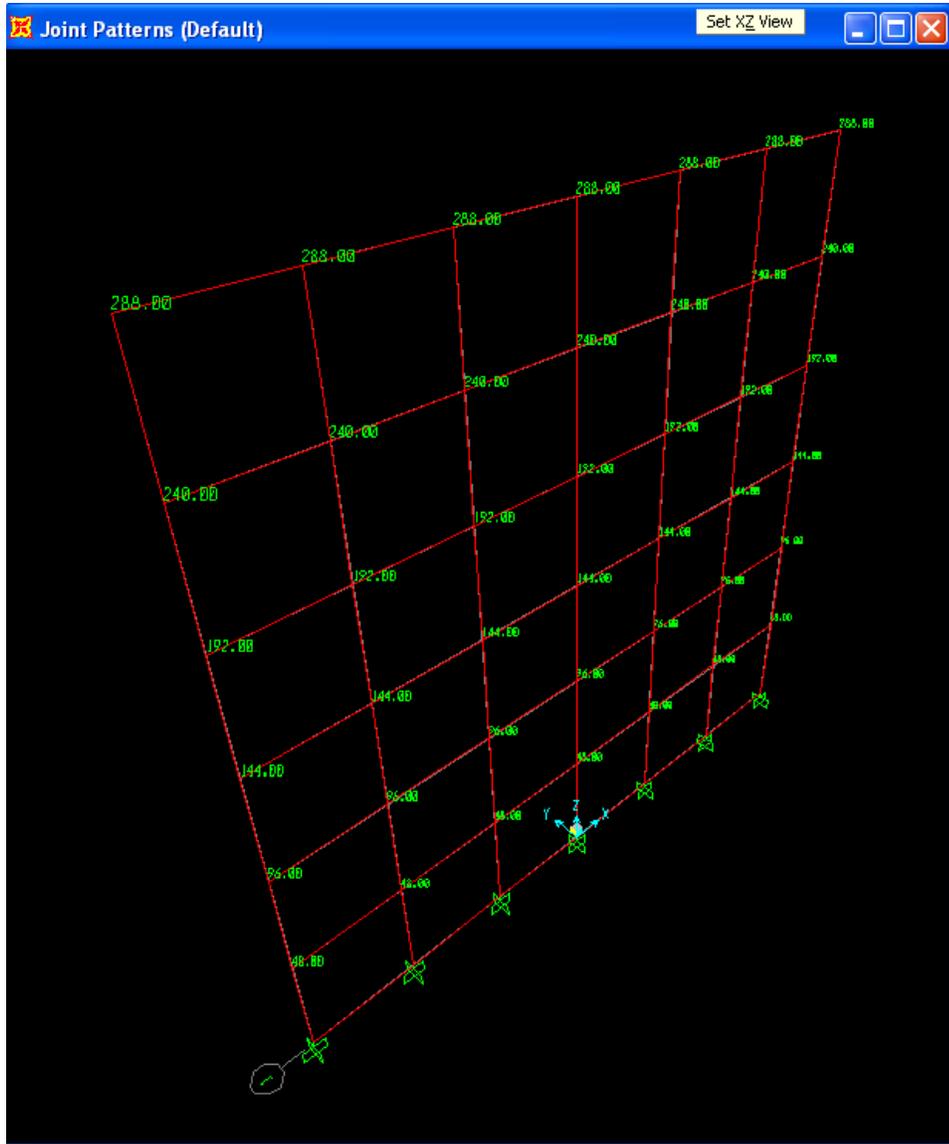


Figure 4 - Assignment review

The area load assigned to each joint may also be displayed by selecting Display > Show Load Assign > Area Surface Pressure Values.