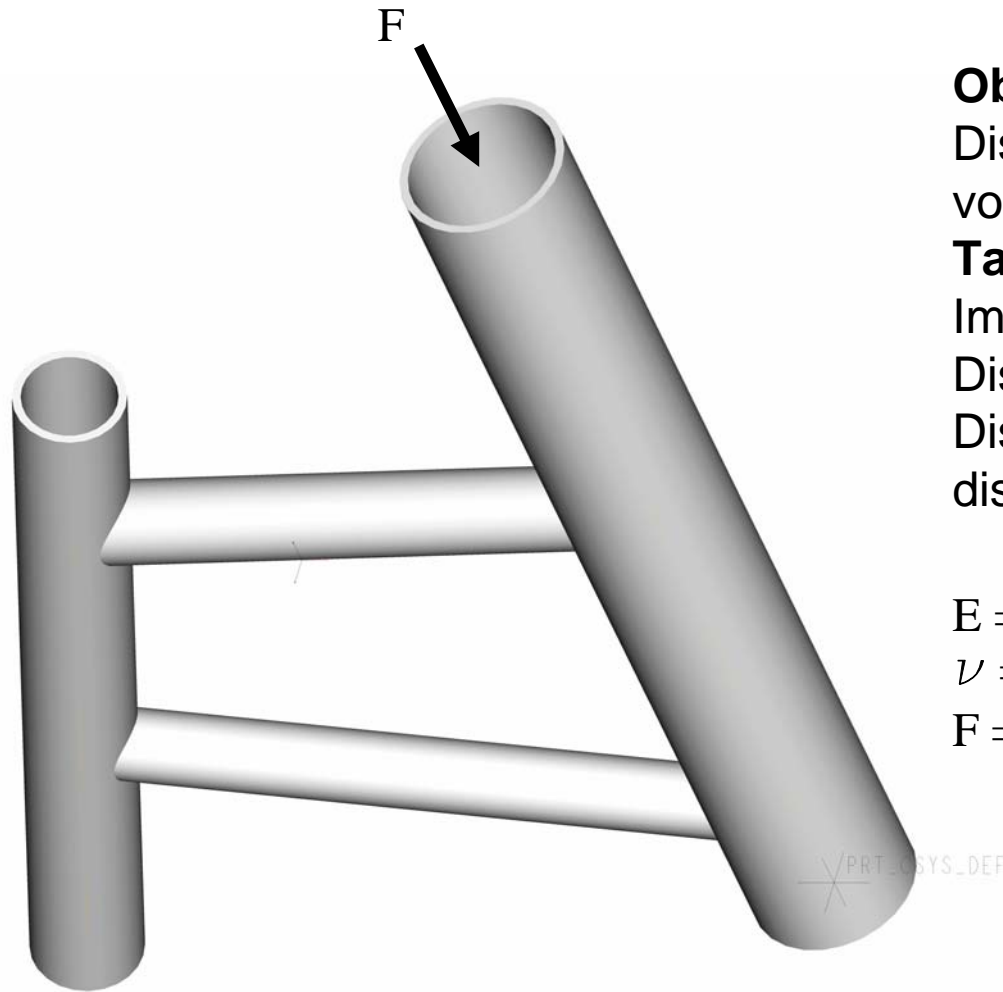


# Course in ANSYS

Example0302

# Example – Offshore structure



## **Objective:**

Display the deflection figure and von Mises stress distribution

## **Tasks:**

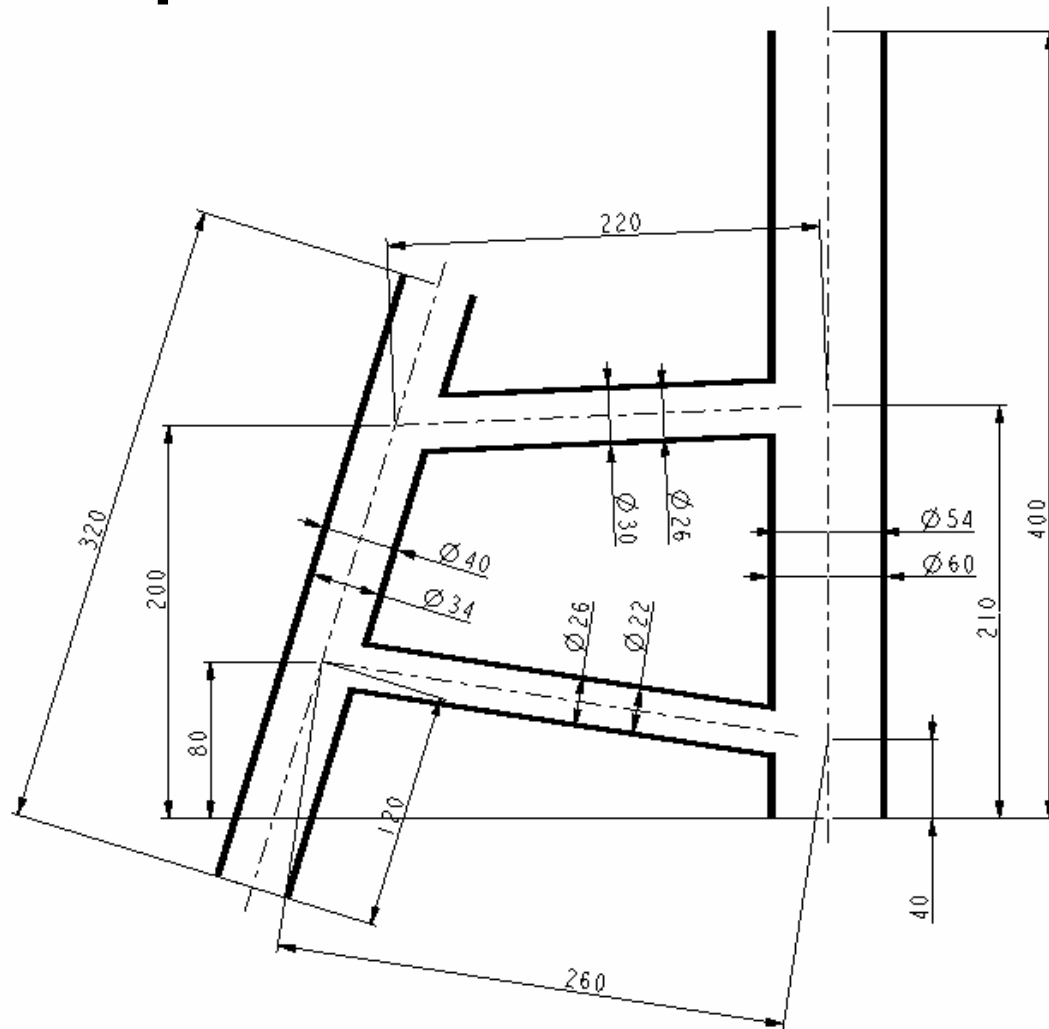
Import geometry from IGES.  
Display the deflection figure?  
Display the von Mises stress distribution?

$$E = 210000\text{N/mm}^2$$

$$\nu = 0.3$$

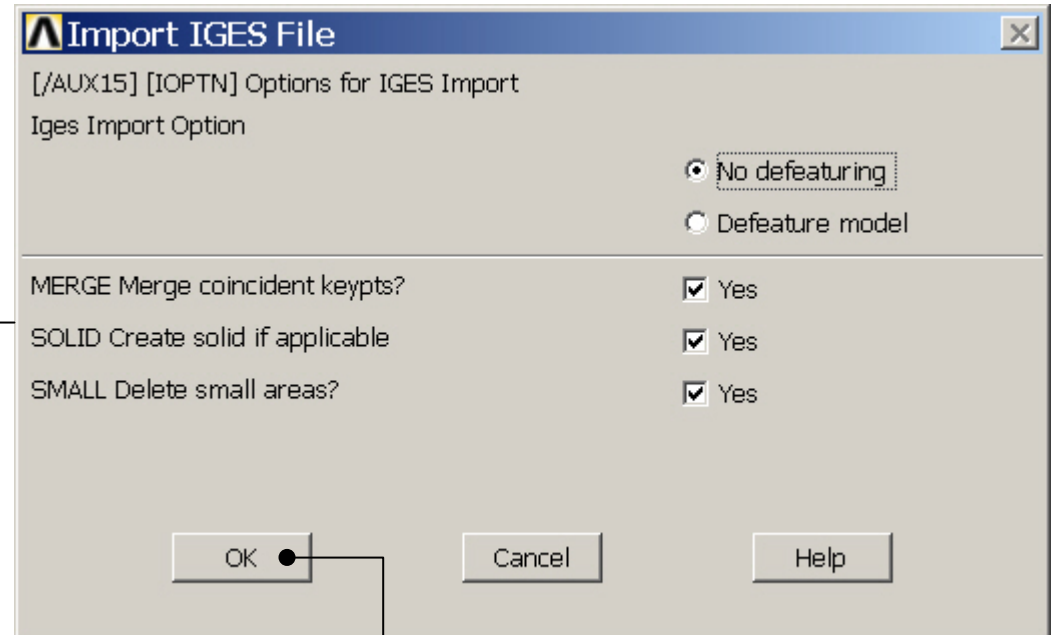
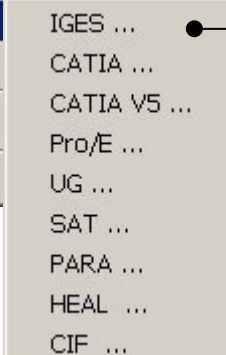
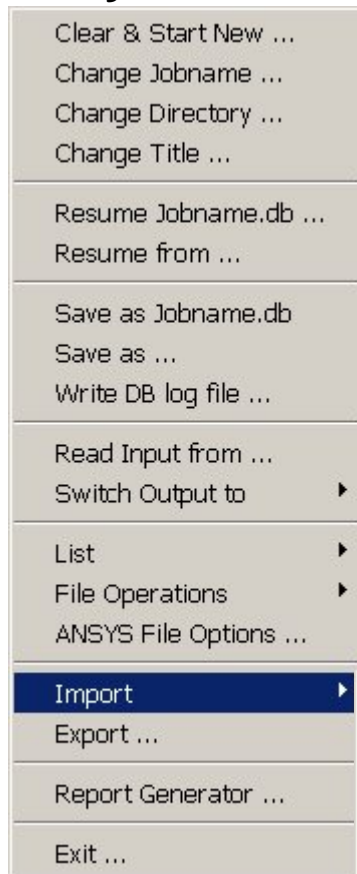
$$F = -10000$$

# Example – Offshore structure



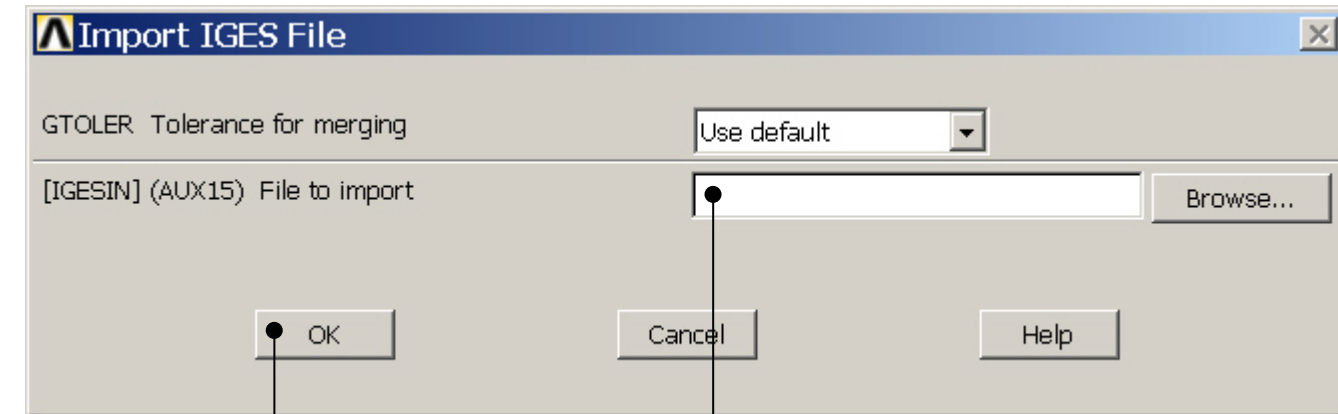
# Example – Import IGES

Utility Menu > File > Import > IGES



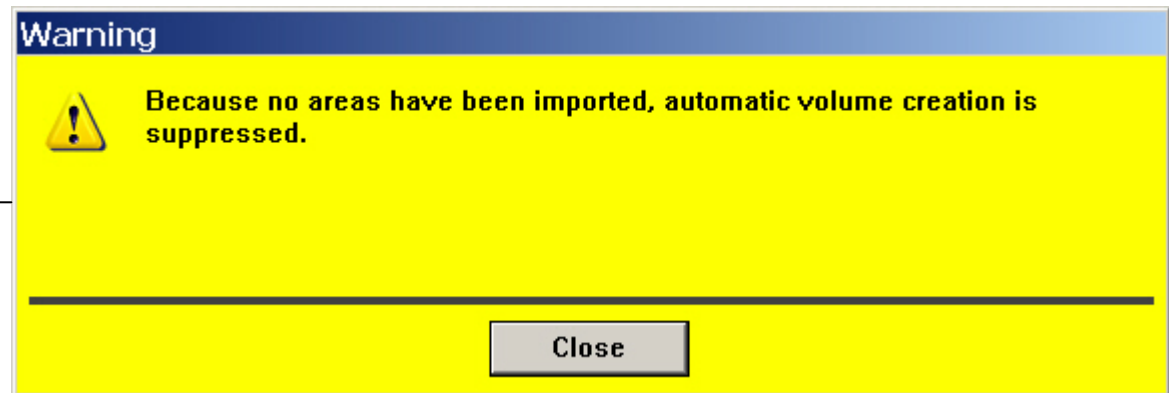
Press OK

# Example – Import IGES

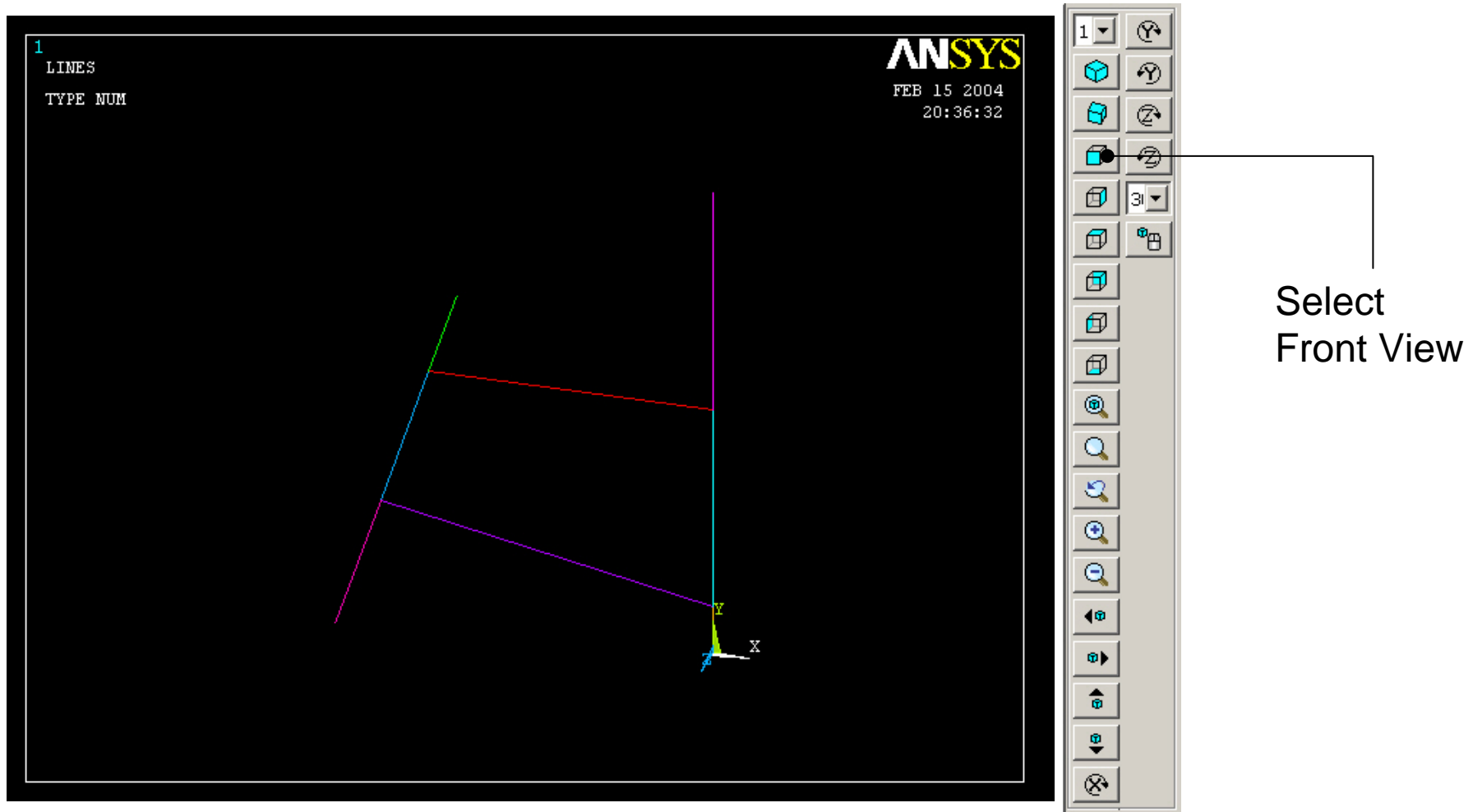


Press OK

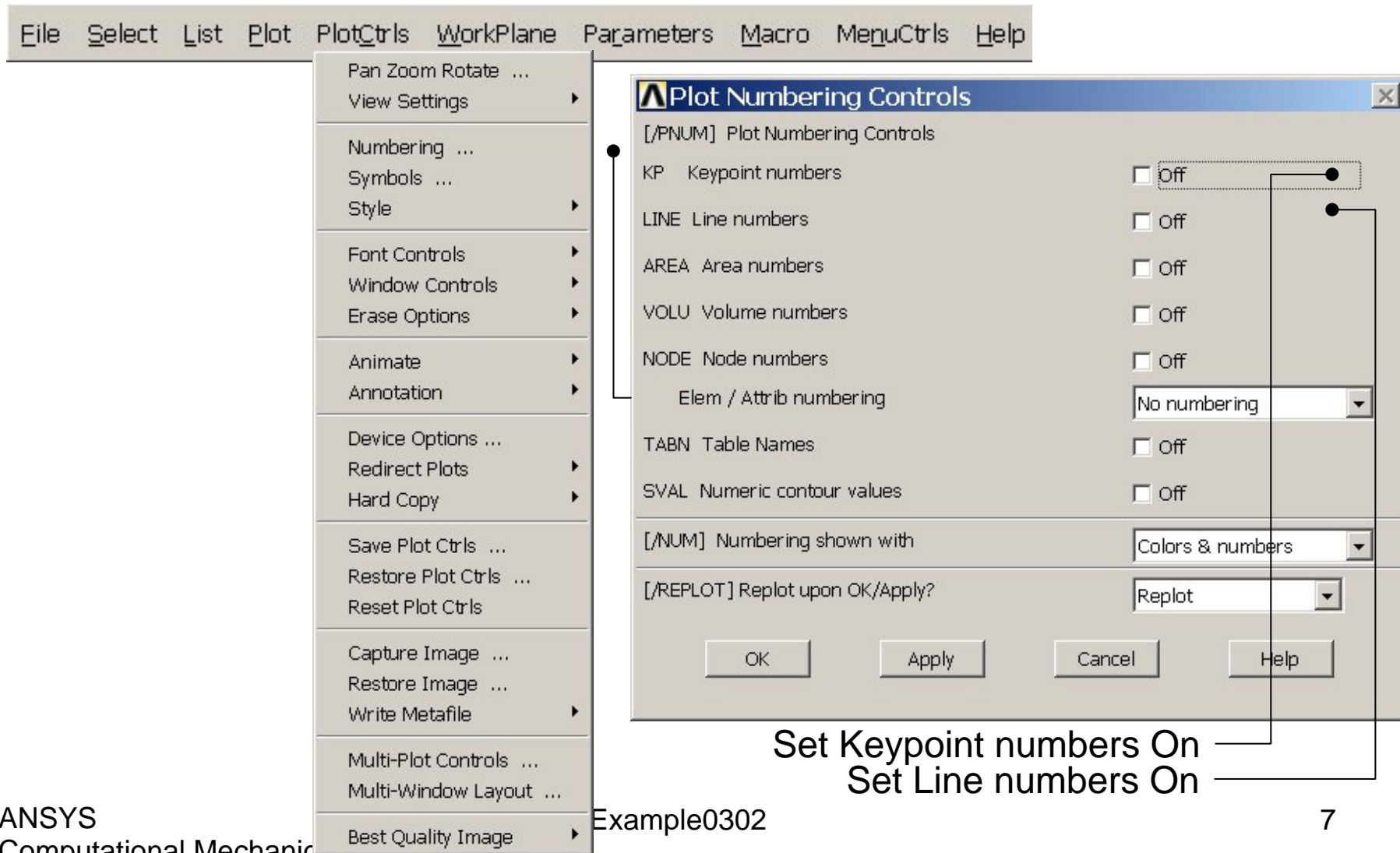
Browse to find offshore-structure-skeleton.igs



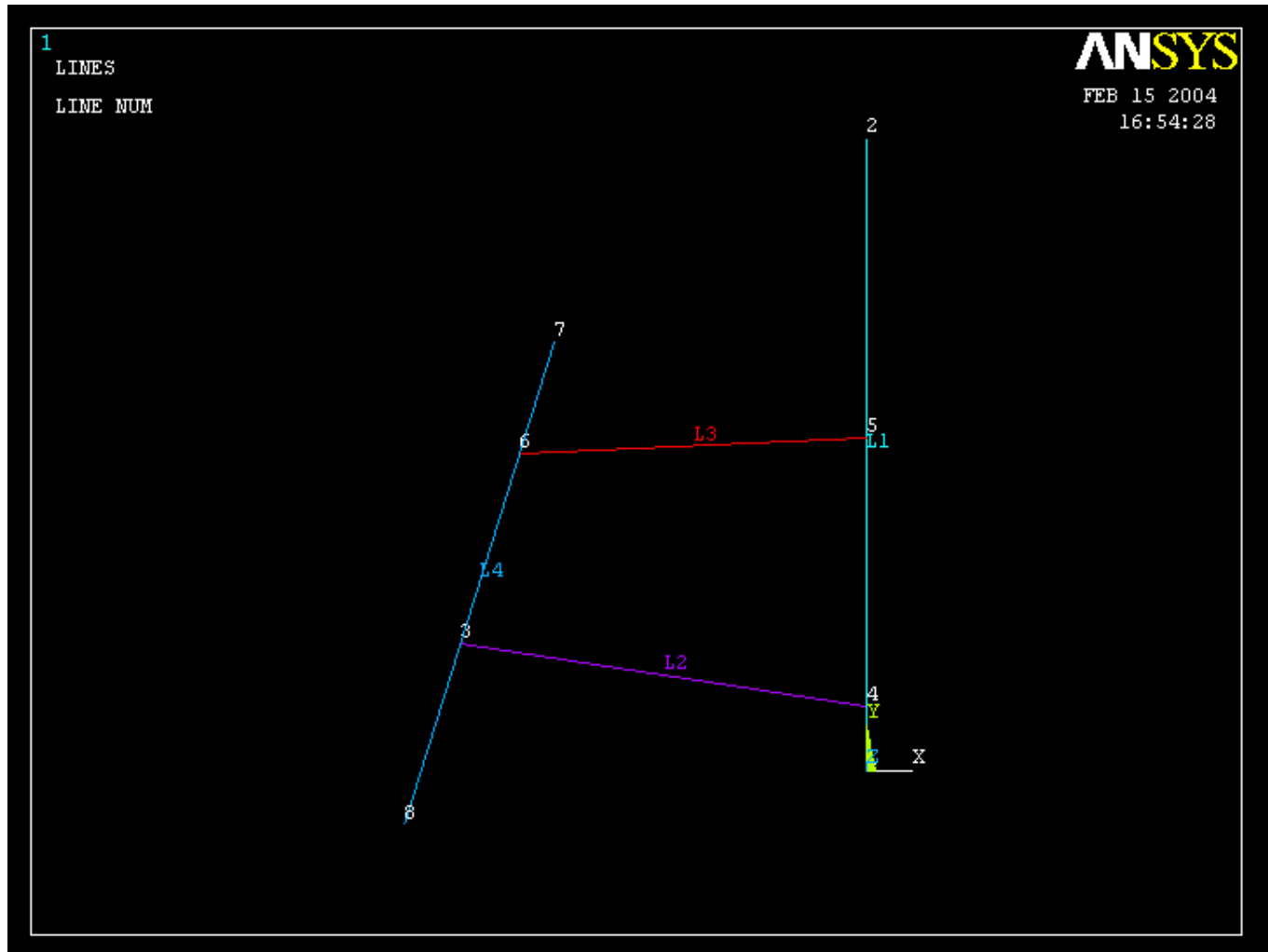
# Example - Display



# Example - Numbering

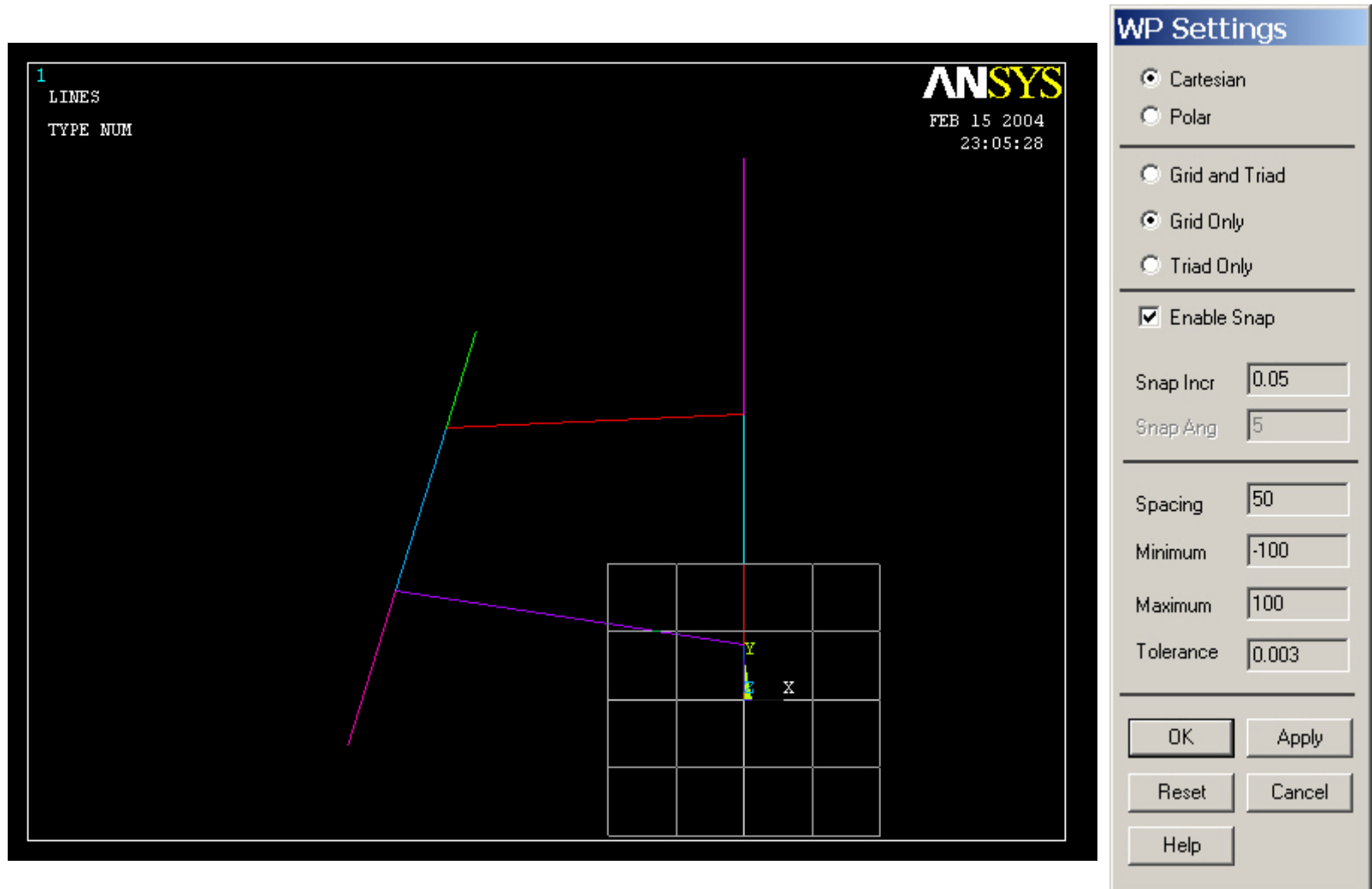


# Example - Numbering

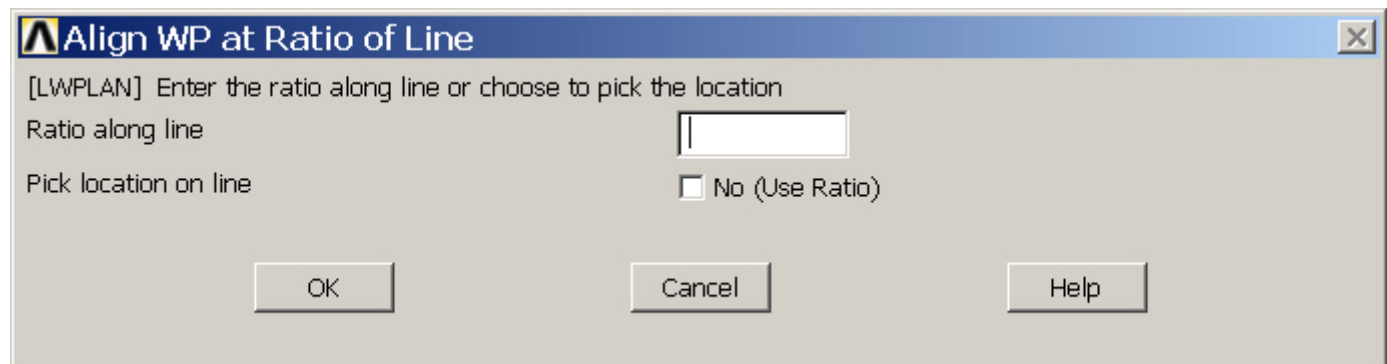
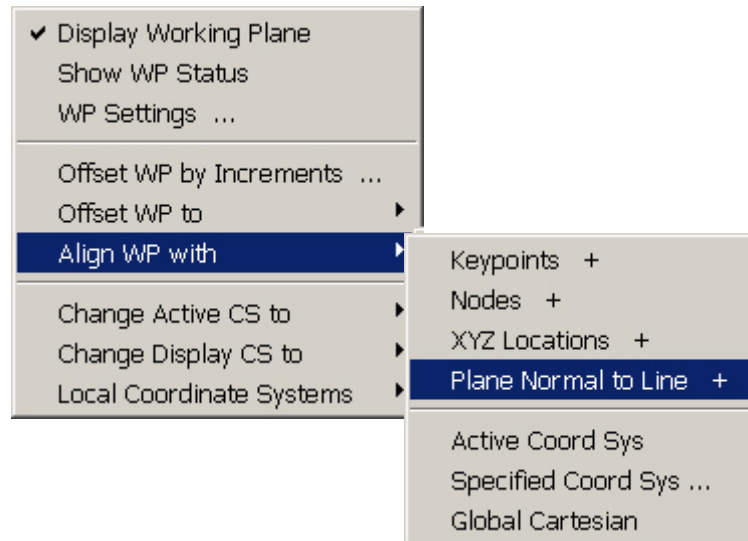
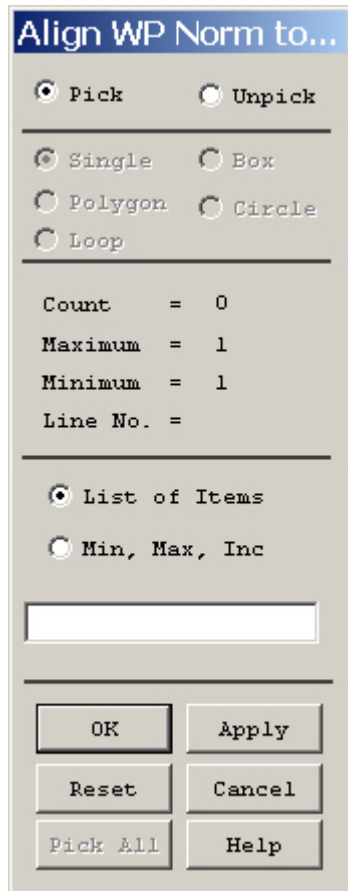




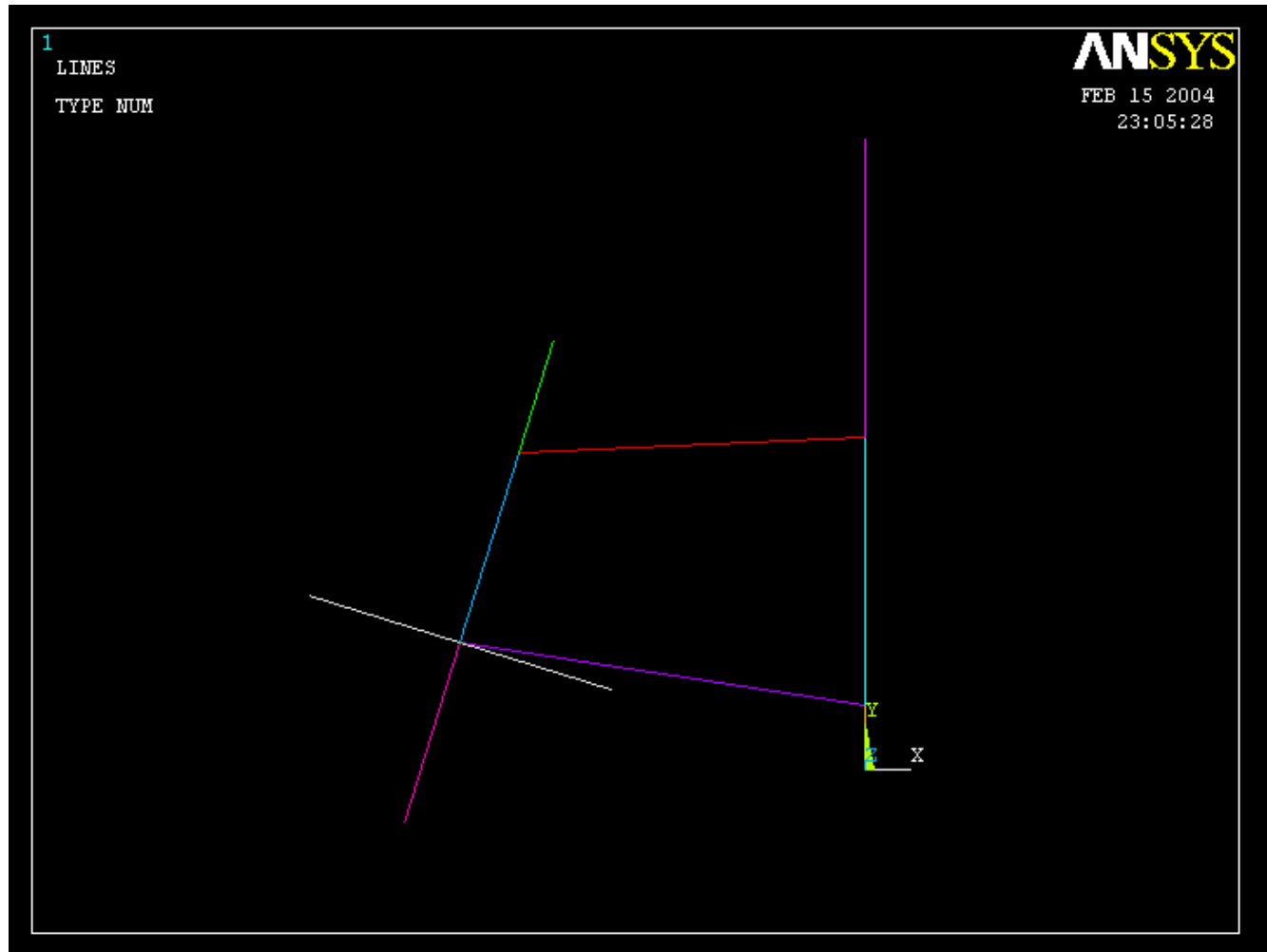
# Example – WP Settings



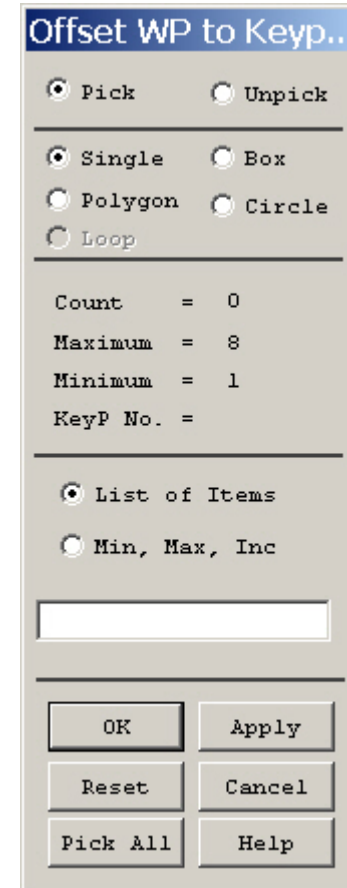
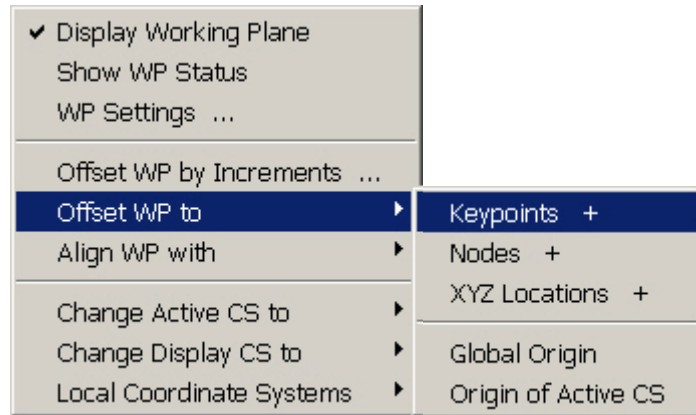
# Example – Align WP with



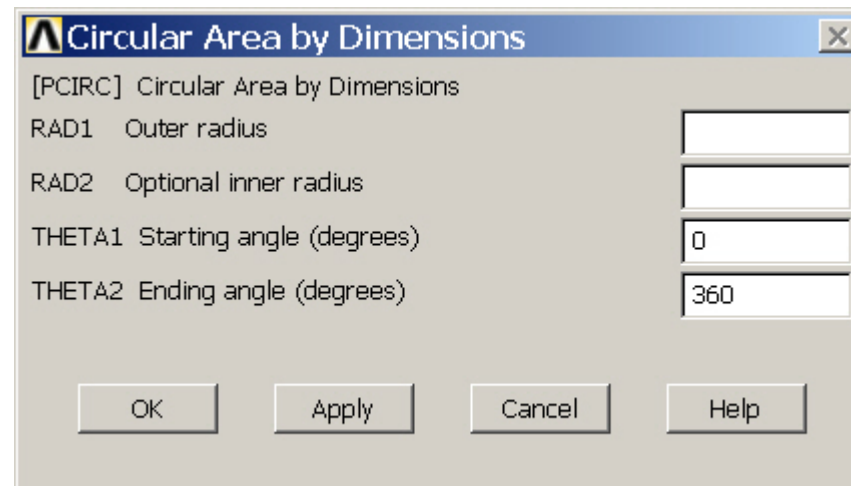
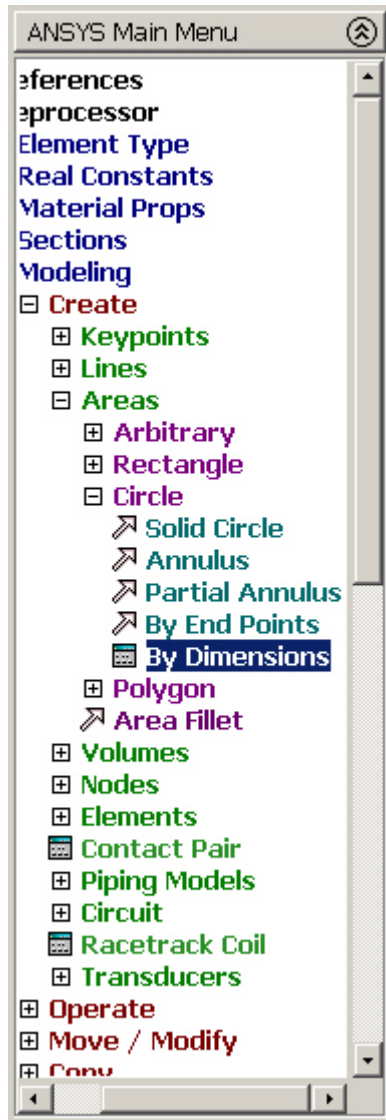
# Example – Align WP with



# Example – Offset WP to

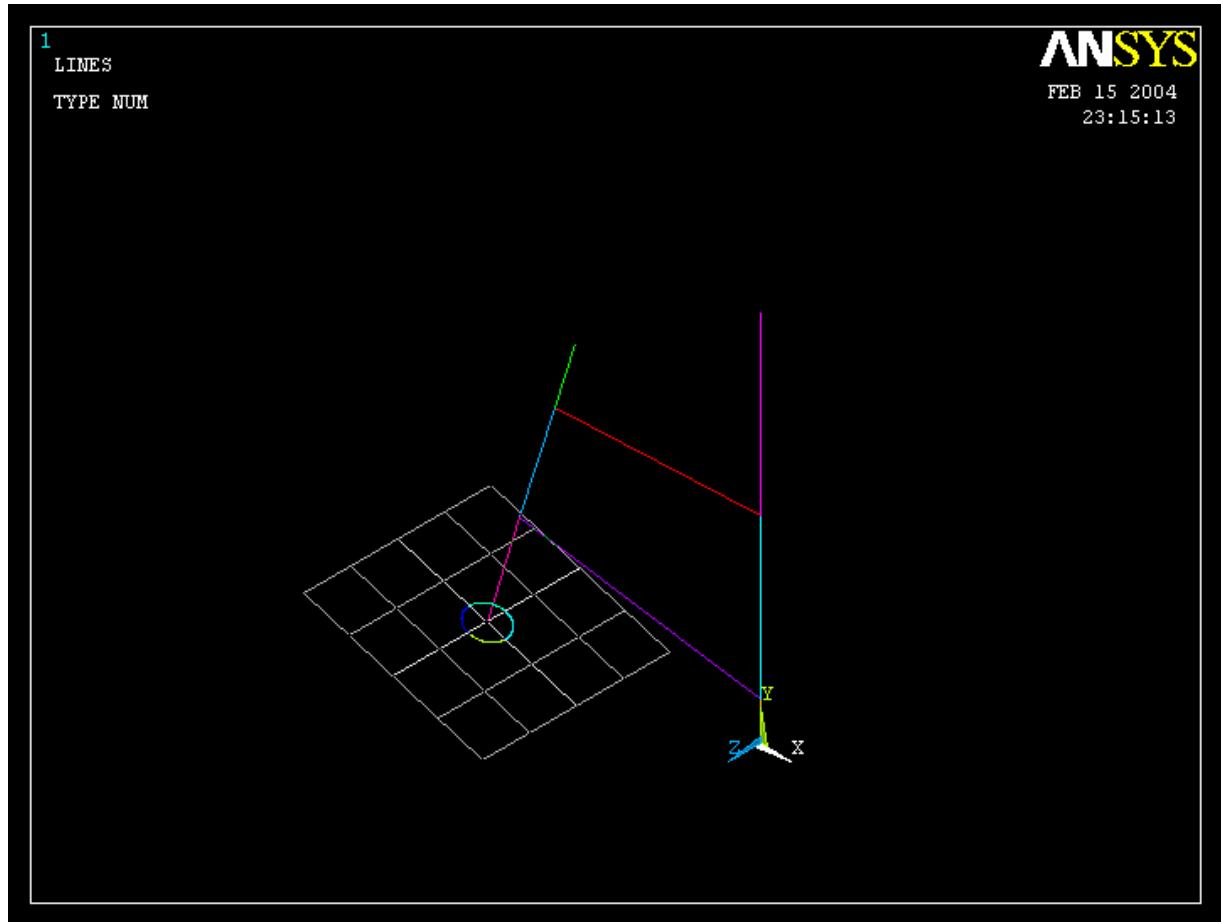


# Example – Circular Area by Dimensions

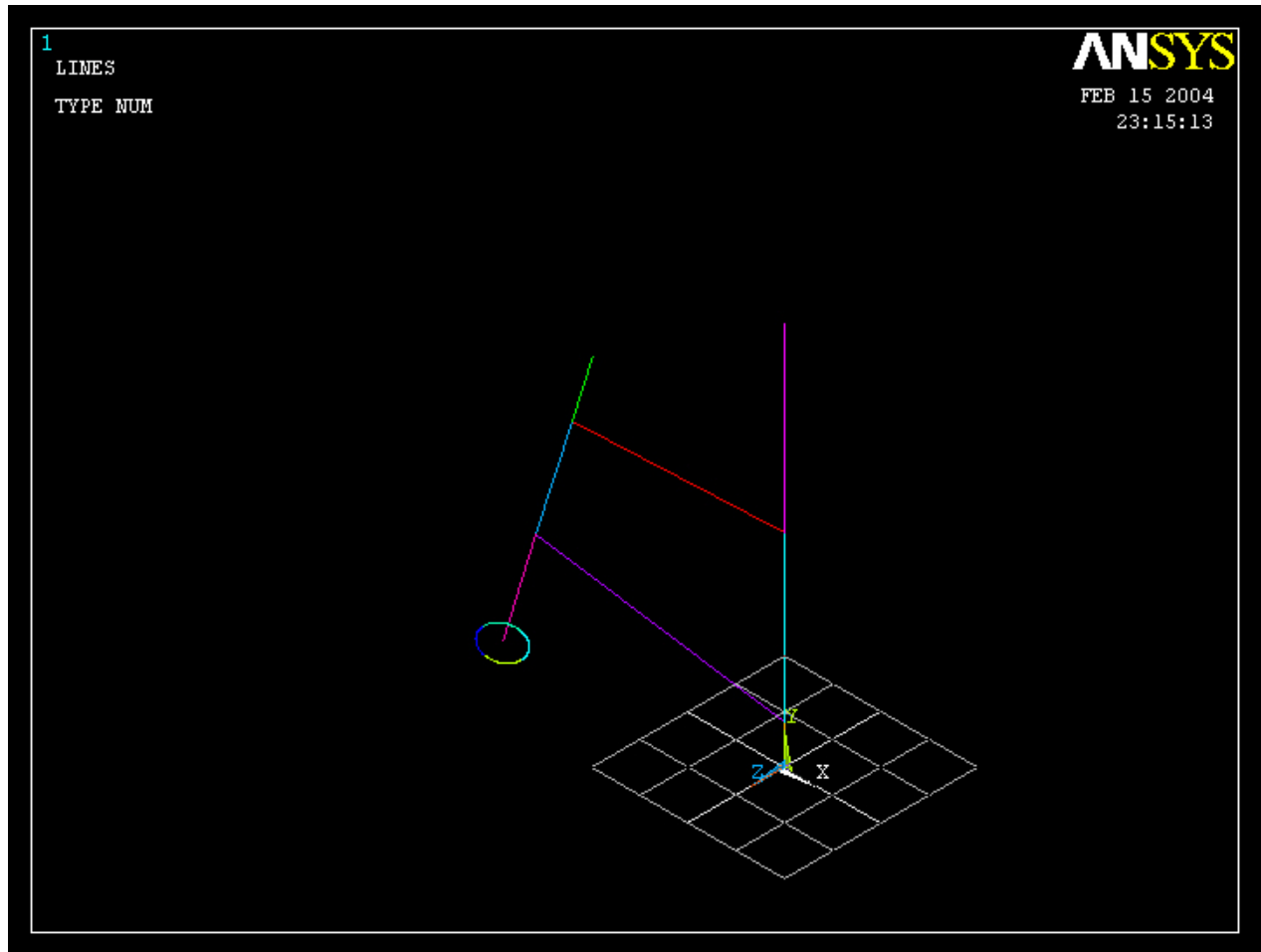


Example0302

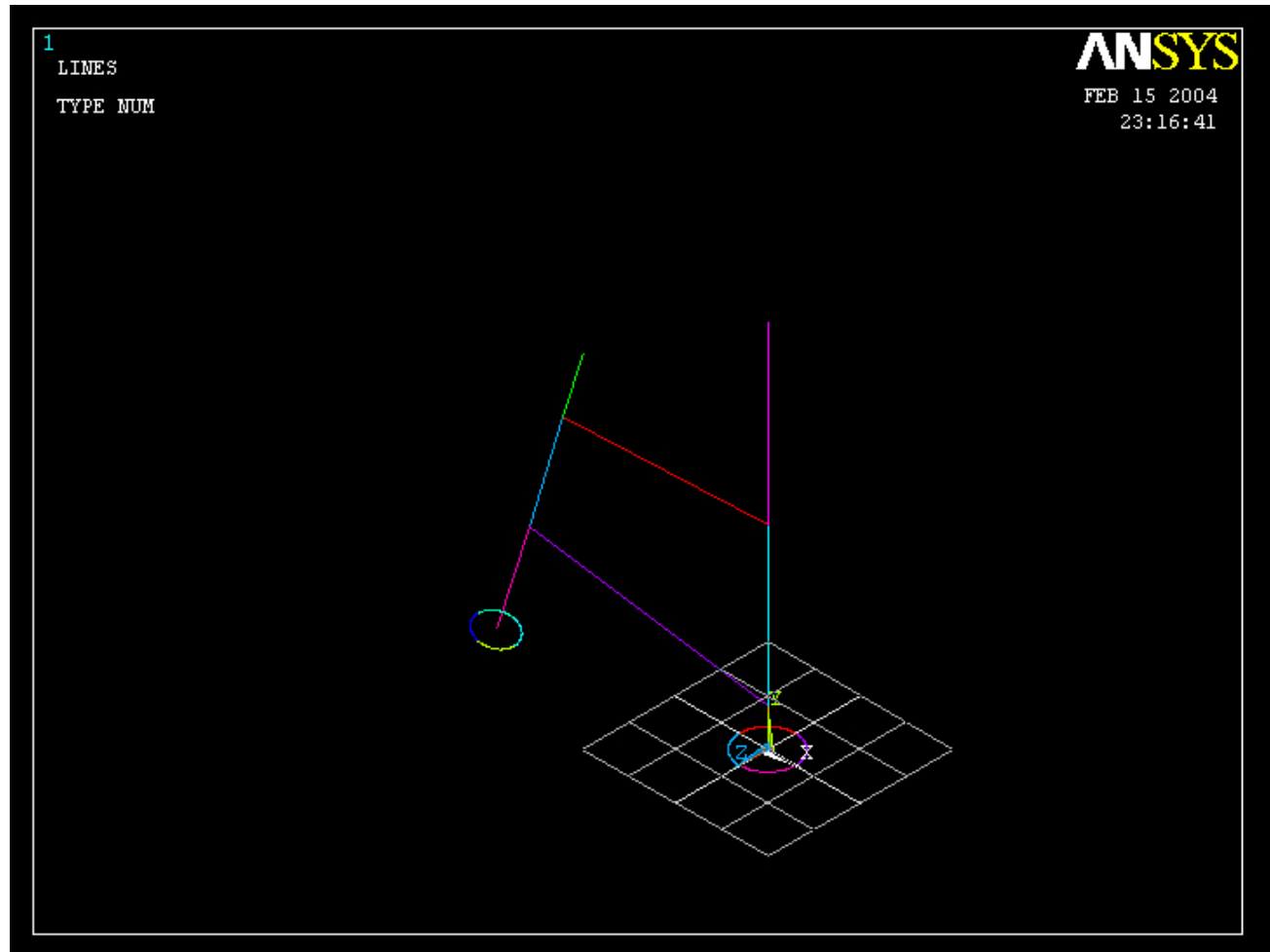
# Example – Circular Area by Dimensions



# Example – Circular Area by Dimensions

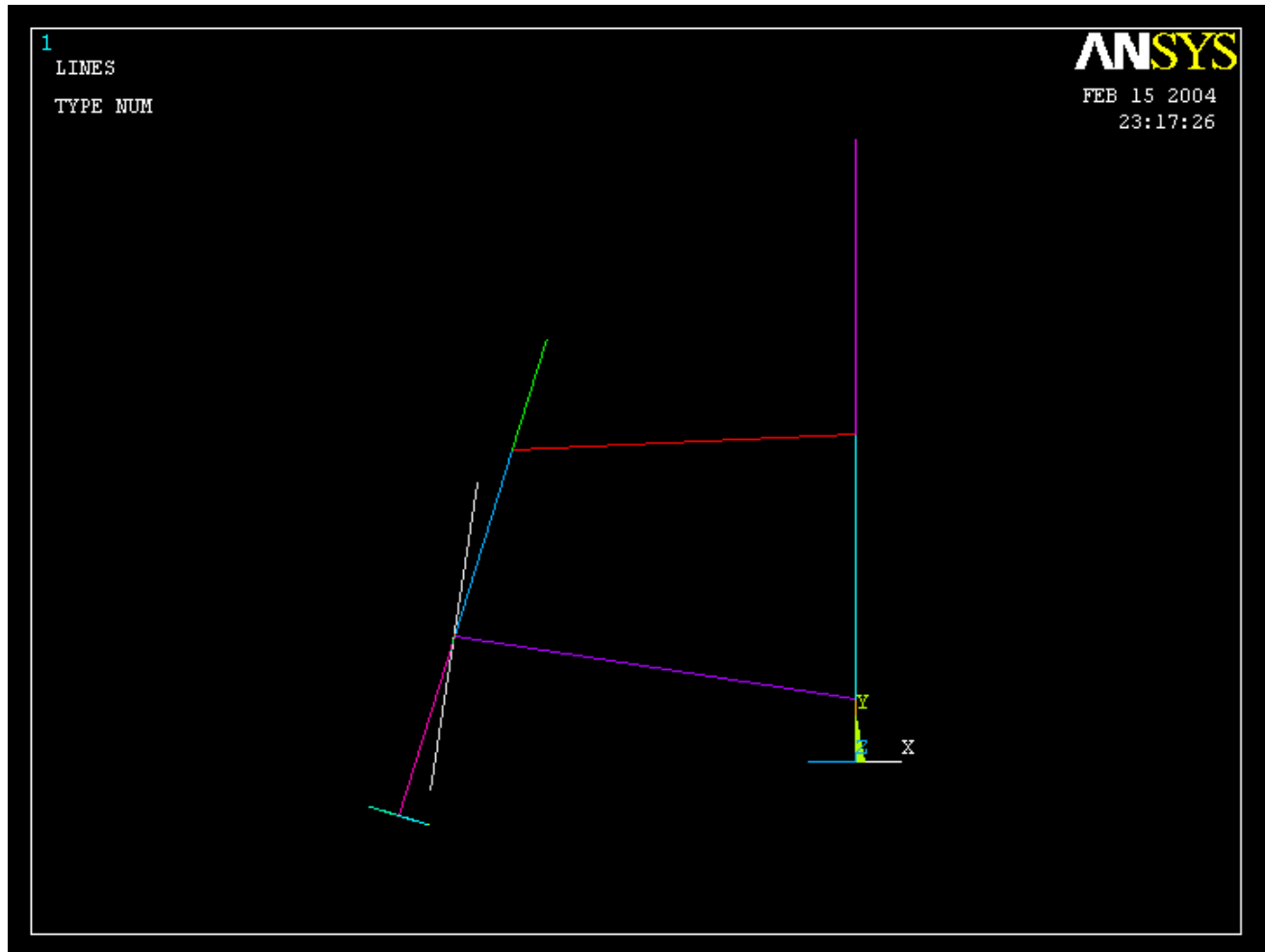


# Example – Circular Area by Dimensions





# Example – Circular Area by Dimensions

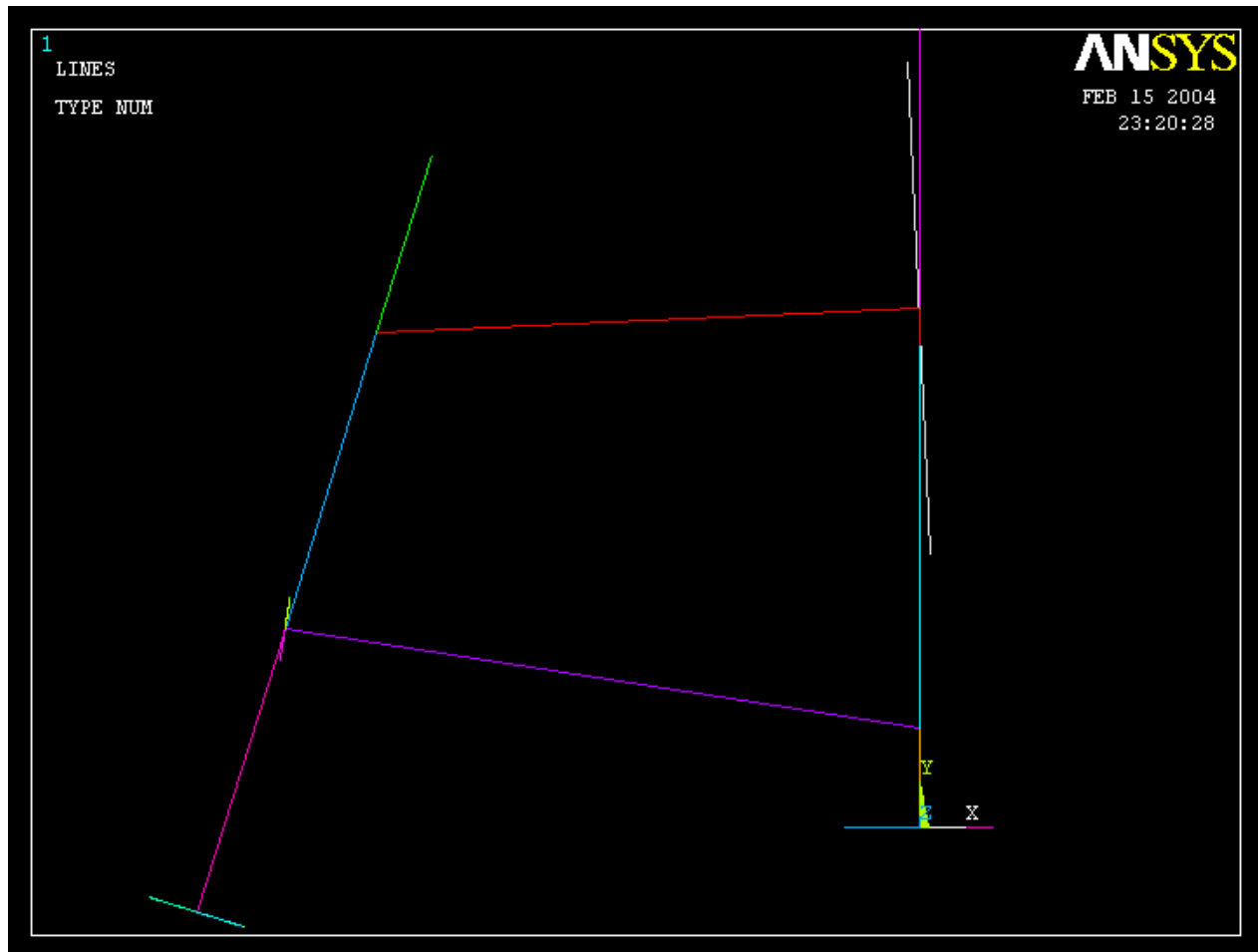


1  
LINES  
TYPE NUM

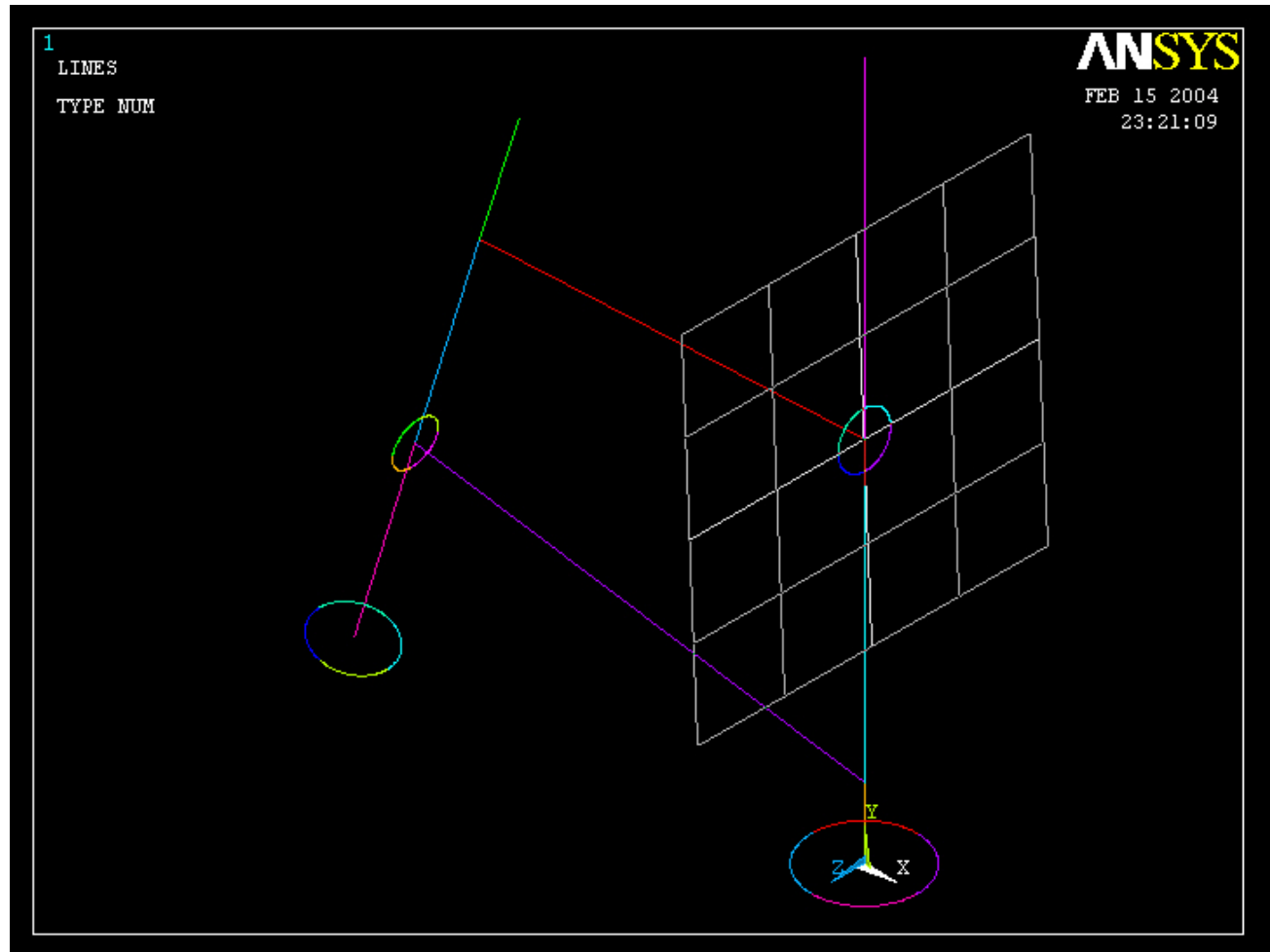
ANSYS  
FEB 15 2004  
23:19:35

The figure shows a 3D plot in ANSYS. A grid of lines is visible, with a specific point highlighted by a green circle. A coordinate system is shown at the bottom right, with axes labeled X, Y, and Z. The X-axis is horizontal, the Y-axis is vertical, and the Z-axis is diagonal. The grid lines are colored in various colors (red, blue, green, yellow, magenta). The plot is titled '1 LINES TYPE NUM'.

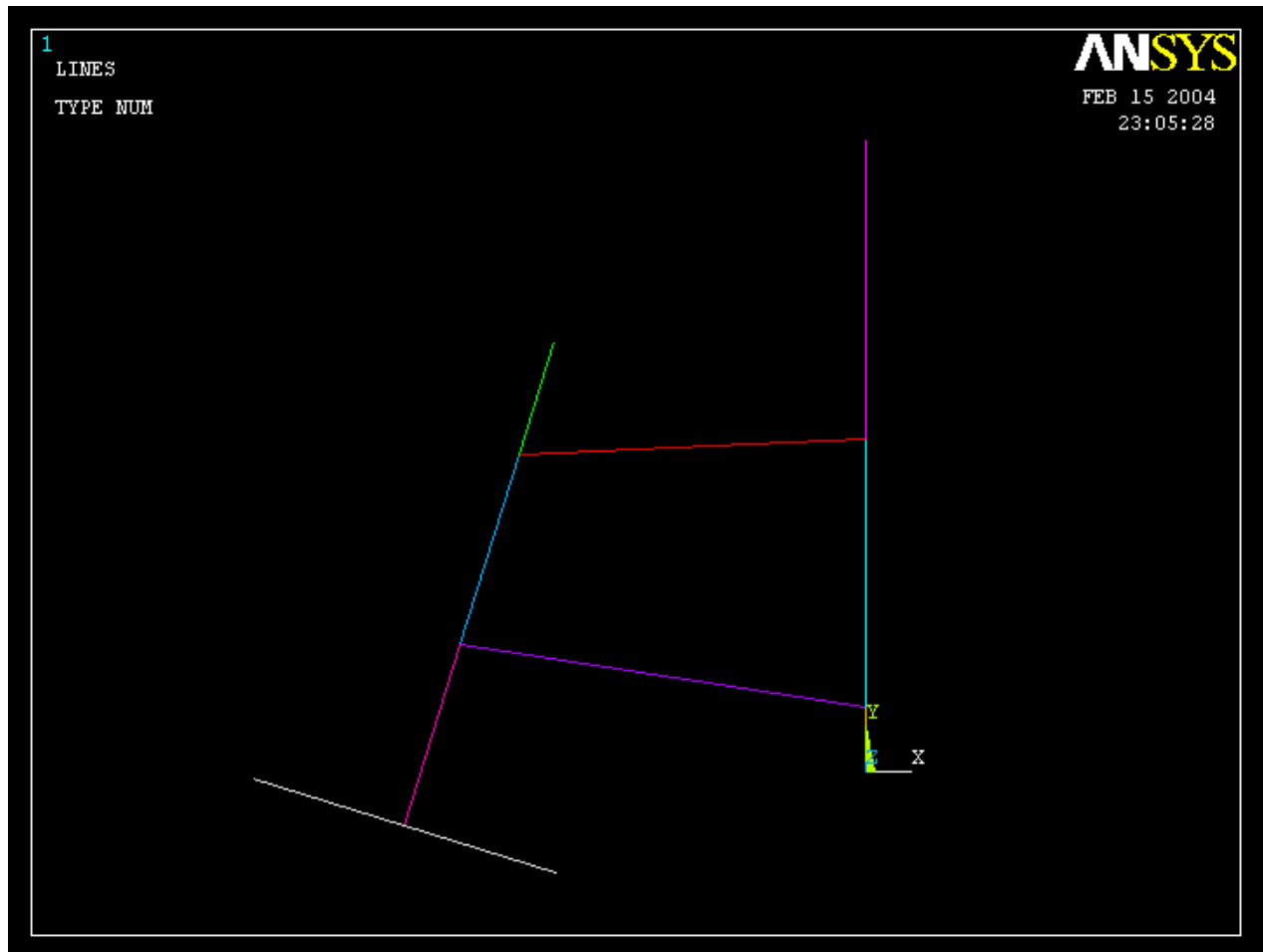
# Example – Circular Area by Dimensions



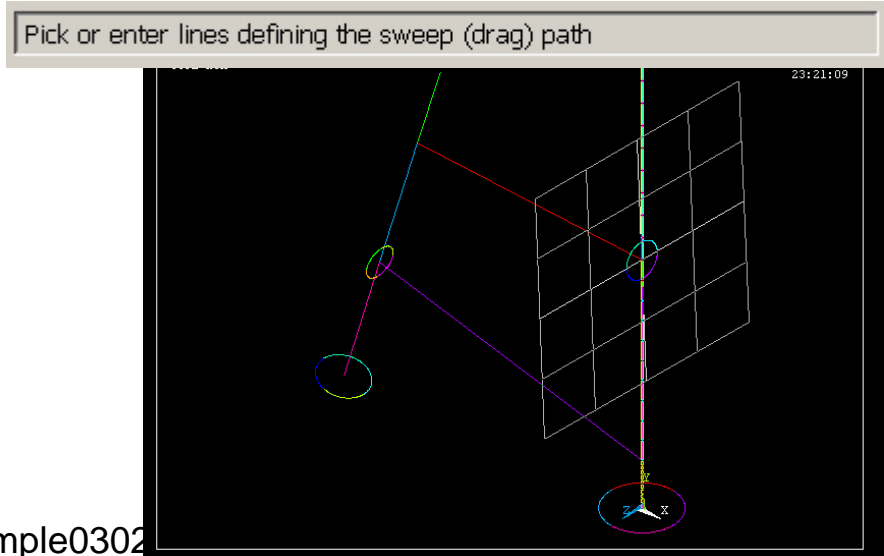
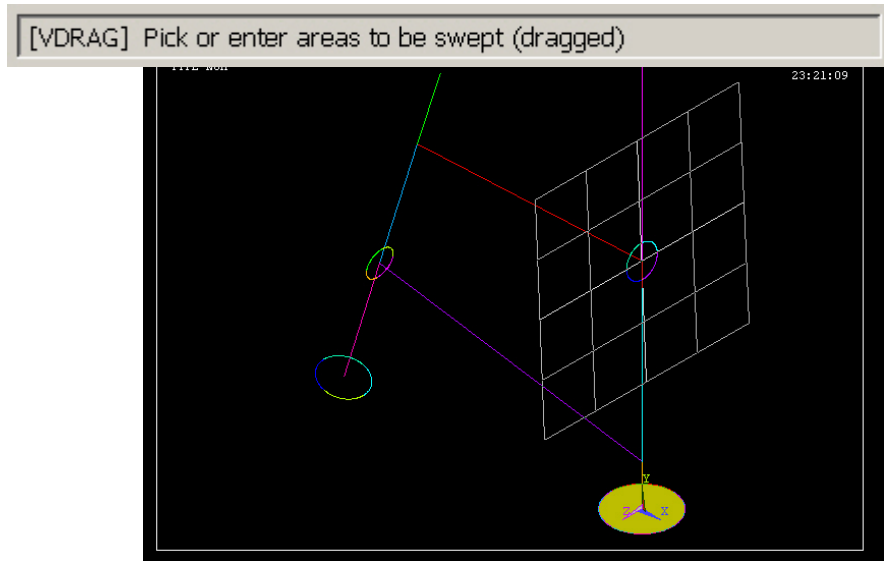
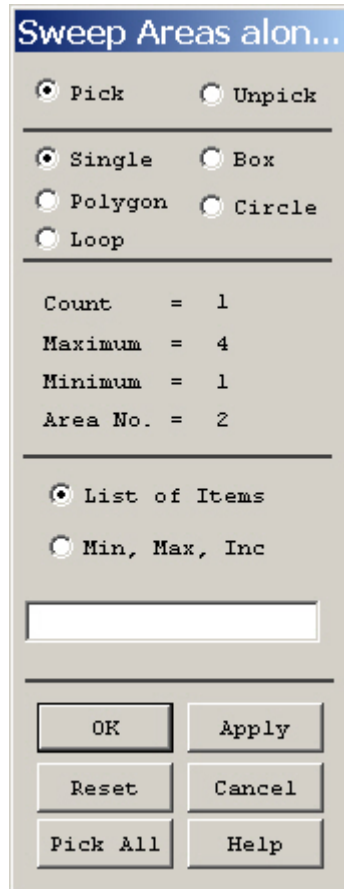
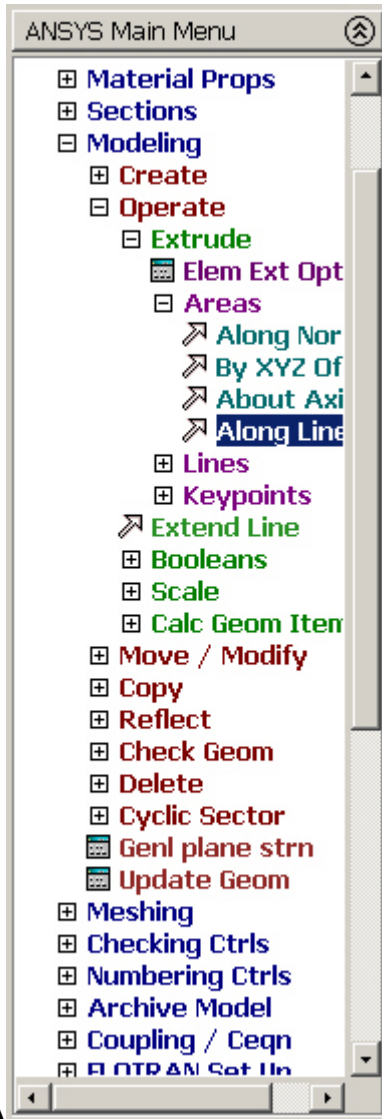
# Example – Circular Area by Dimensions



# Example – Circular Area by Dimensions

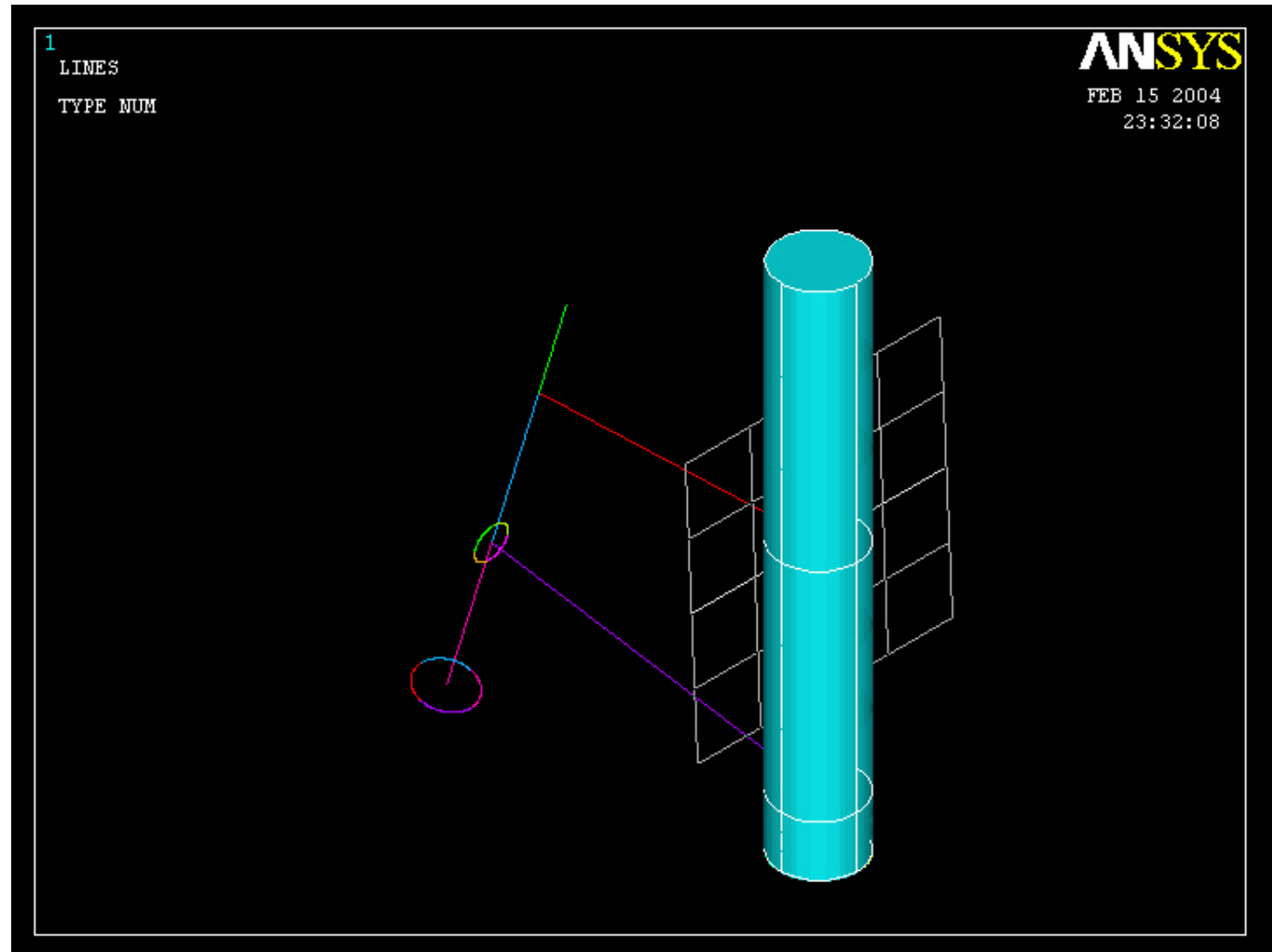


# Example – Extrude

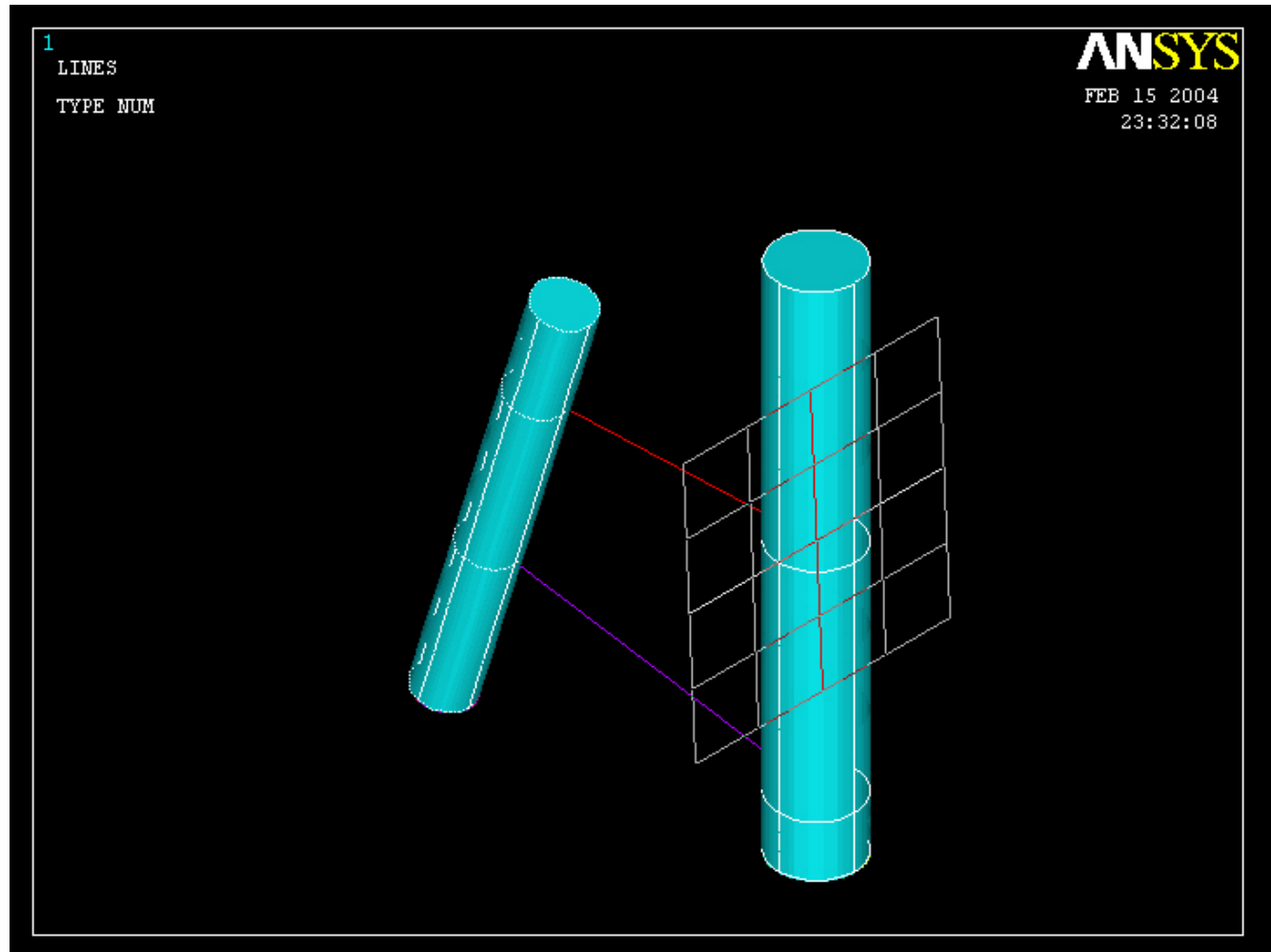


Example0302

# Example – Extrude

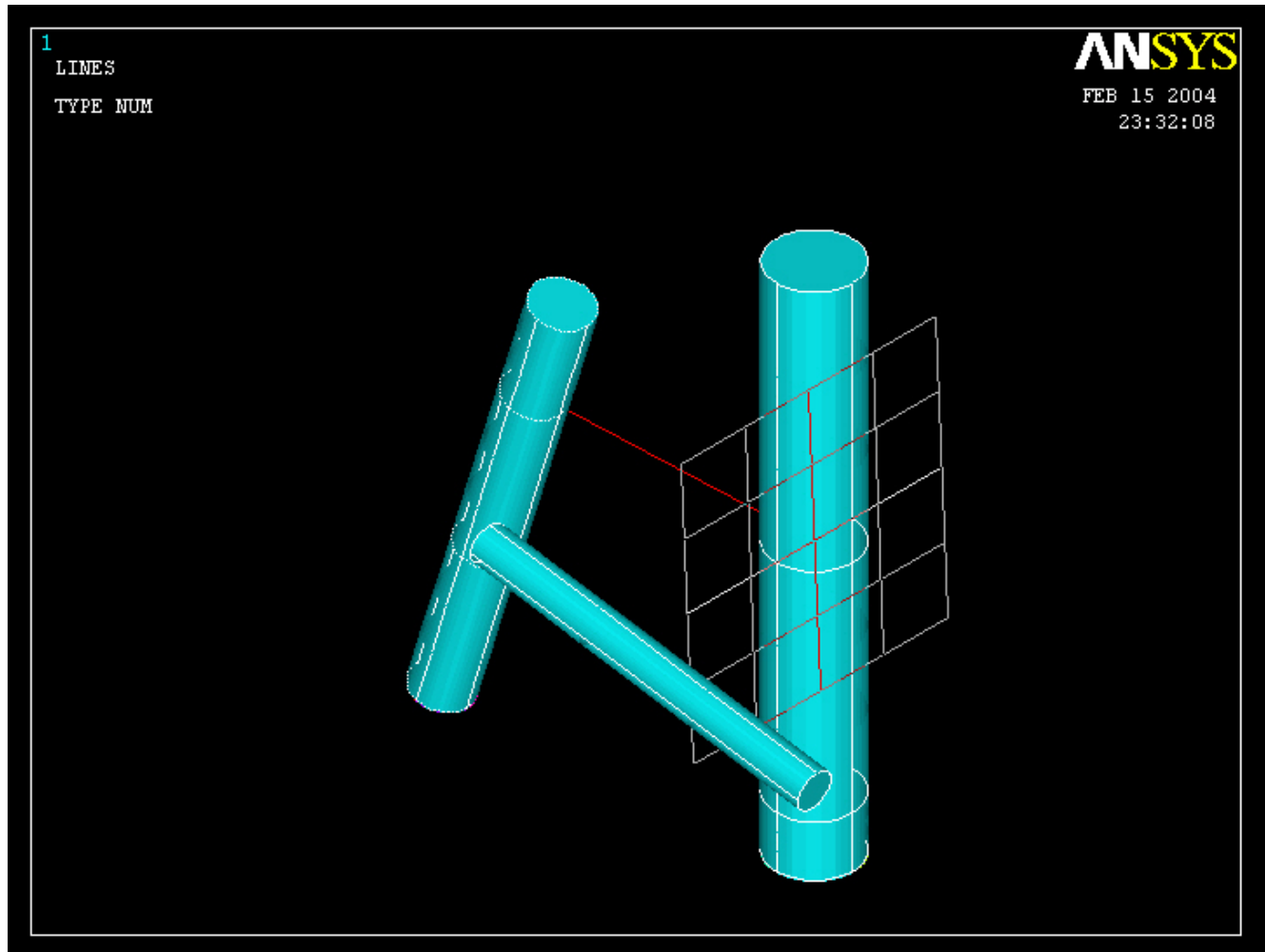


# Example – Extrude

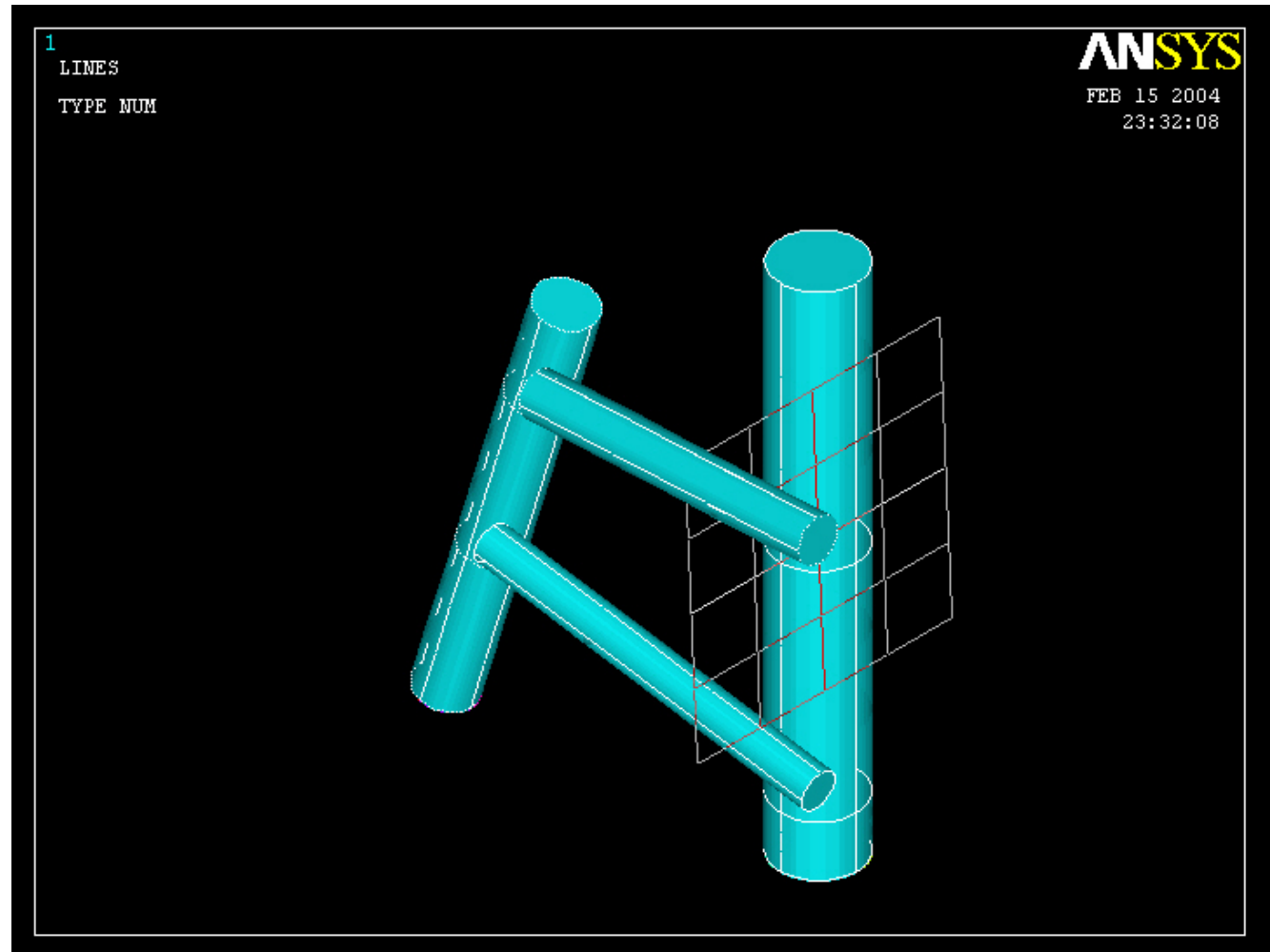




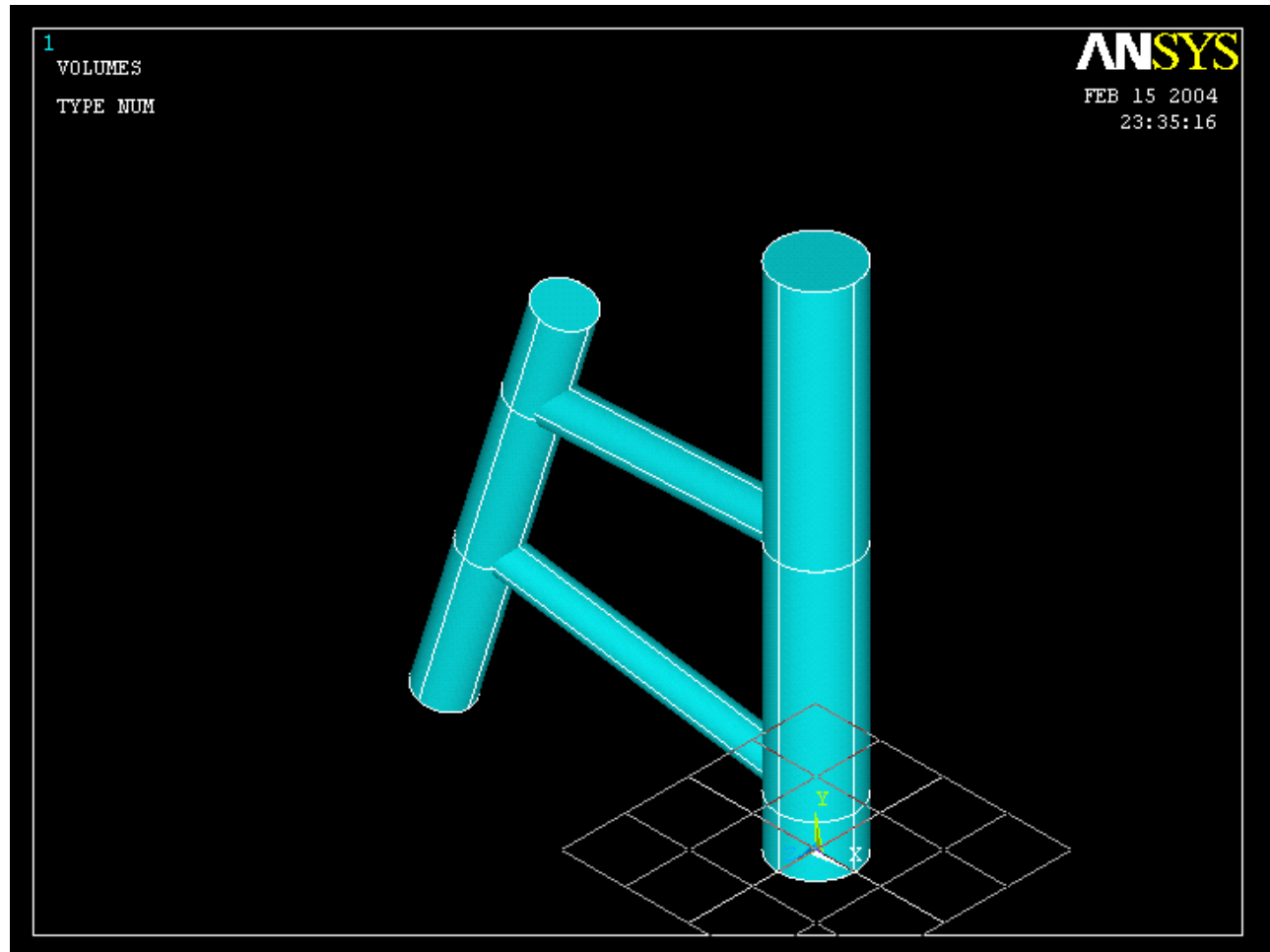
# Example – Extrude



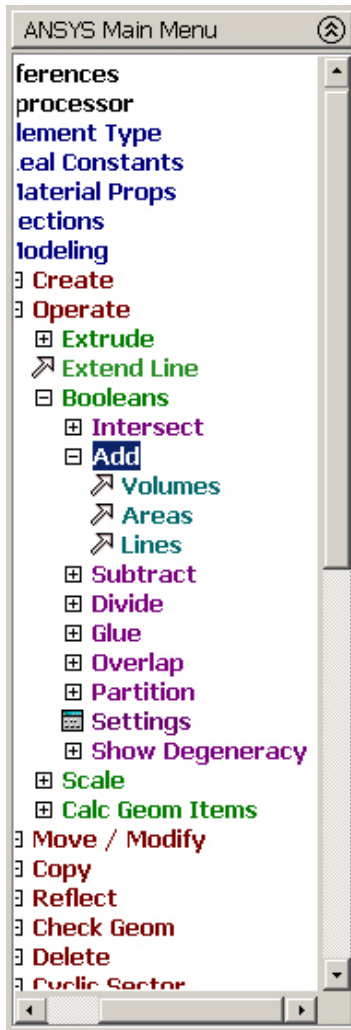
# Example – Extrude



# Example – Extrude



# Example – Add

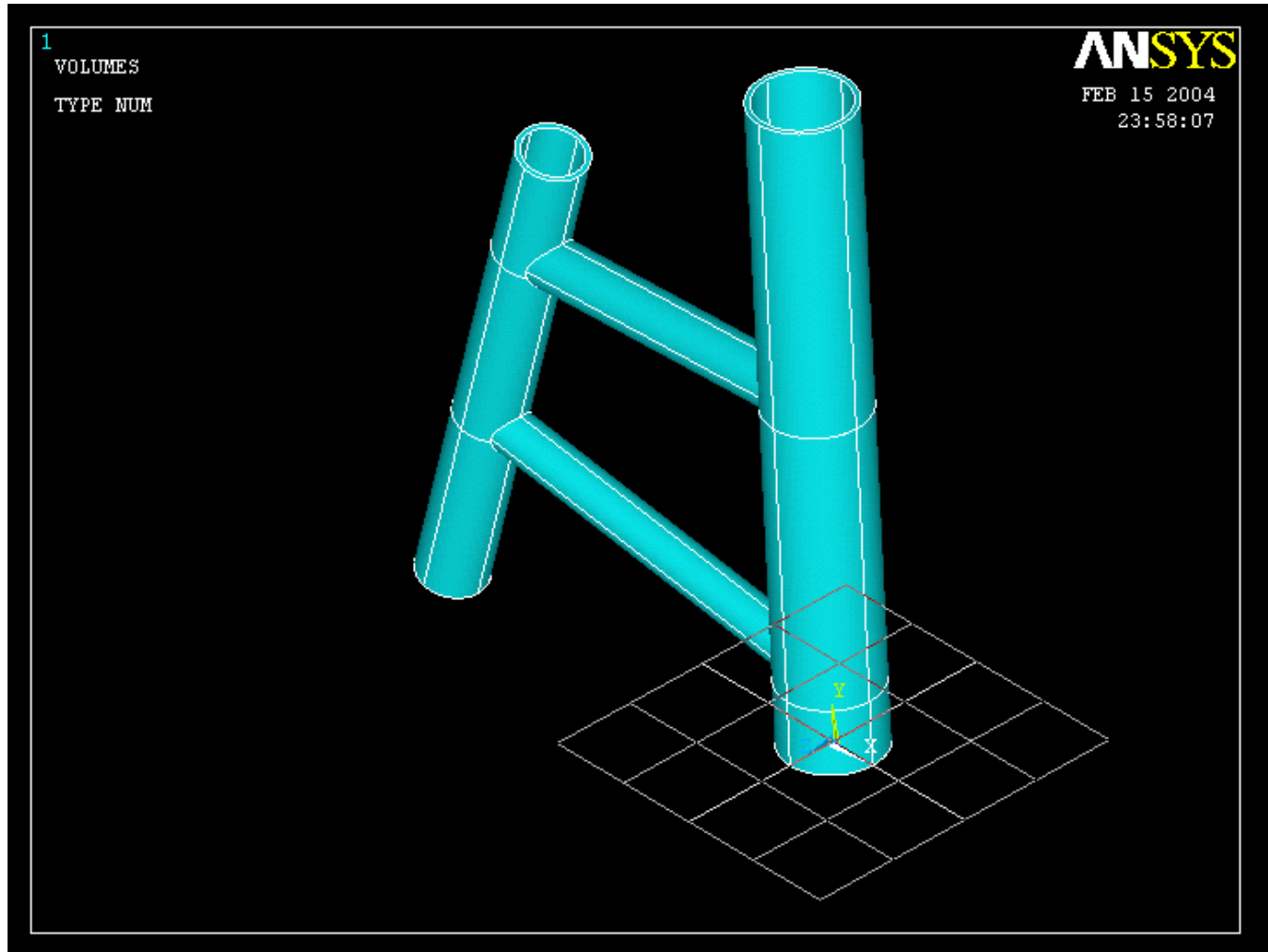


Select Add Volumes and select the recently created volumes

# Example

- Perform the process again. Now create the volume given by the inner radii of the offshore structure.
- Finally – subtract the inner volume from the outer volume.

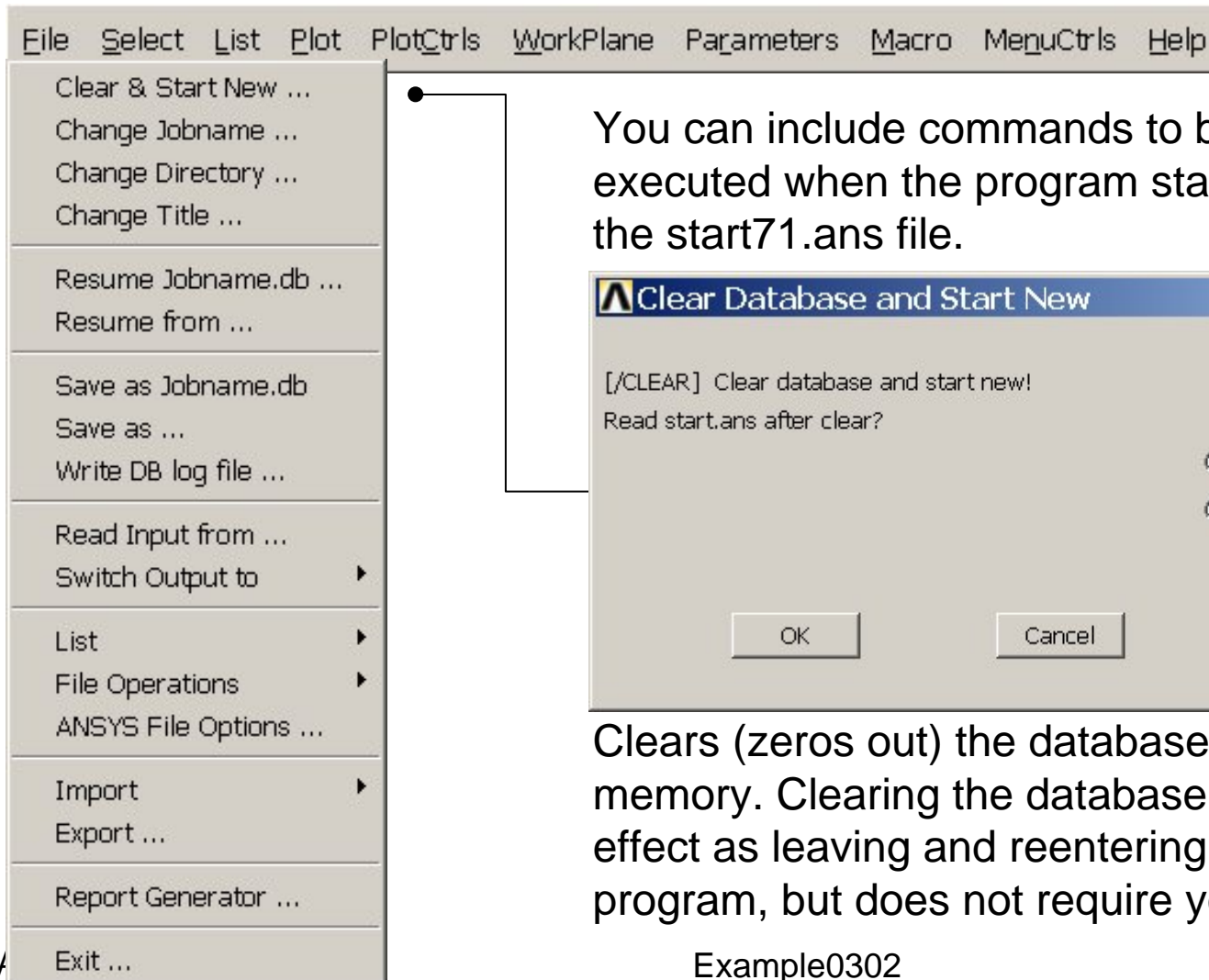
# Example – Subtract



# Example – Comments/Questions

- Could the model be modeled with beam elements instead of pipe elements?
- The “example0302.lgw” can be edited in “Notepad”
- Will the number of elements affect the solution?

# File menu



You can include commands to be executed when the program starts up in the start71.ans file.

Clears (zeros out) the database stored in memory. Clearing the database has the same effect as leaving and reentering the ANSYS program, but does not require you to exit.