Andhra Pradesh State Skill Development Corporation

Extended Three-Dimensional Analysis of Building System

ETABS

Edit Tools Part - II

EDIT TOOL-3

Objective

This chapter contains an explanation on Tools in EDIT Menu.

The EDIT menu contains various editing tools among those some of the edit tools are as listed below.

Replicate

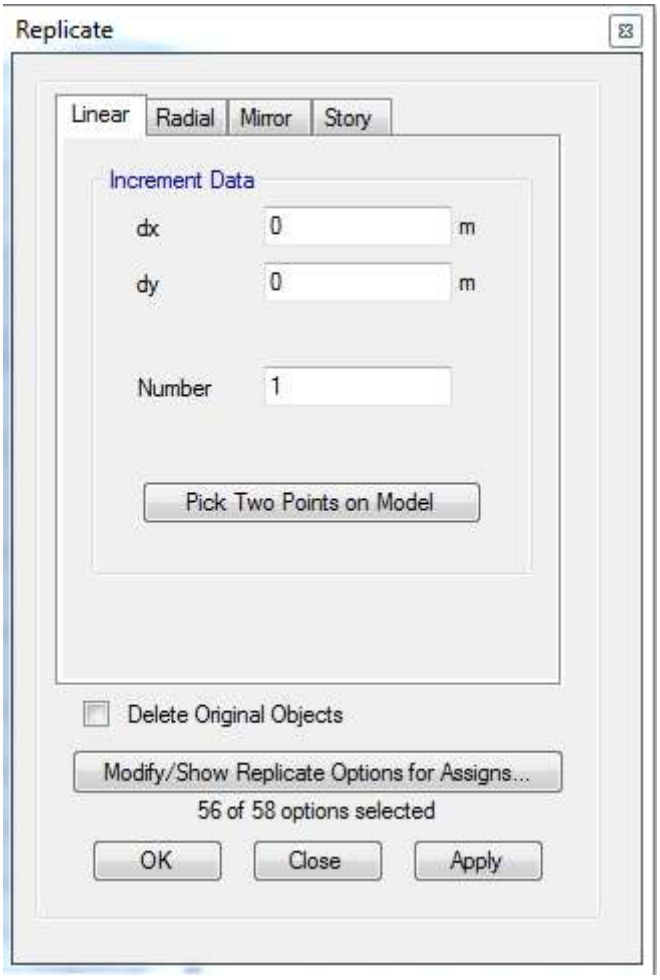
The **Edit menu > Replicate** command is a powerful way to copy objects, including most of their assignments.

Replicate one or more objects as follows:

1. Select the object(s) to be replicated.
2. Select the **Edit menu > Replicate** command to access the Replicate form.
3. The Replicate form has four tabs. Click the tab to specify the objects and assignments to be replicated.

1. Linear

For linear replication:

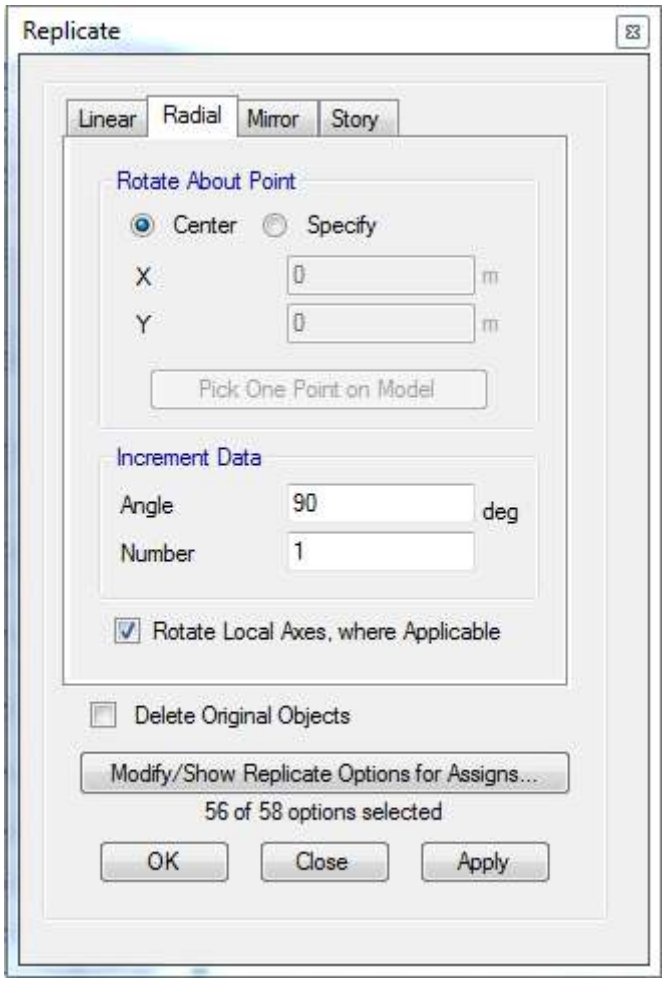


- Specify the **dx** and **dy** or click the **Pick Two Points on Model** button and select two points on the model to set the **dx** and **dy** values. Specify the number of times the object is to be replicated.

- Click the **Modify/Show Replicate Options for Assigns** button to access the Replicate Assigns form and specify the assignments to be replicated.
- Click the **Apply** button and the object and its assignments are copied the specified number of times, each time incrementing the global X and Y coordinates by the specified dx and dy.

2. Radial

For radial replication the form:



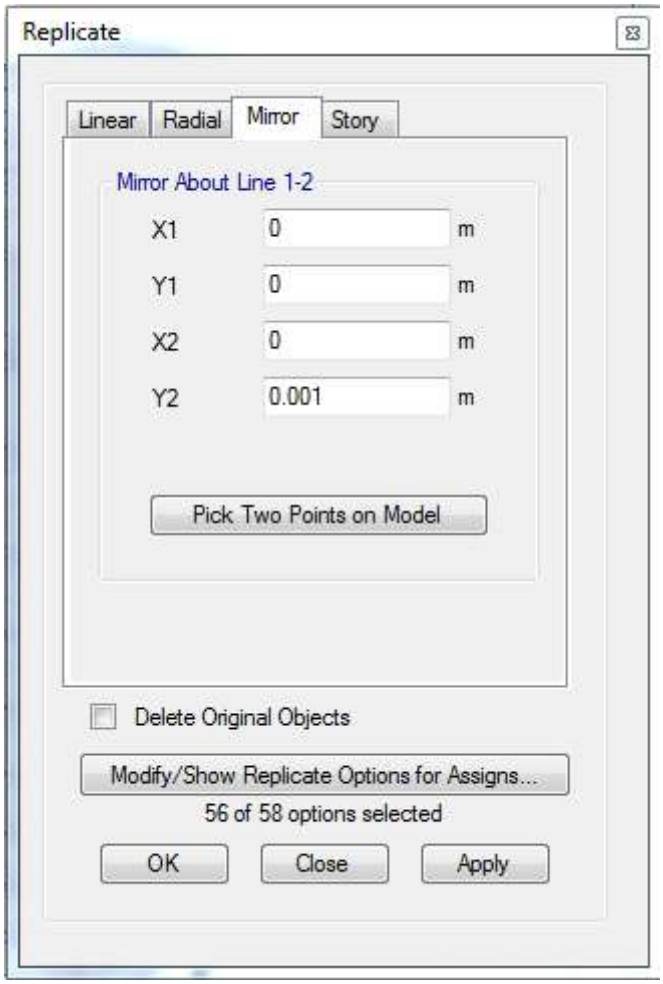
- Specify the point about which to rotate the resulting replicated object.
- Specify a rotation angle.
- Specify the number of times the object is to be replicated.
- Check the *Rotate Local Axes, where Applicable* check box if the local axes of the replicated objects should be rotated.

The object and its assignments are then copied the specified number of times, each time incrementing the location of the objects by the specified rotation angle. Two options are available for specifying the point about which to rotate. ETABS can rotate about the center of the selected objects or the user can specify the global X and Y coordinates of a specific point about which to rotate. When the rotation occurs about the center of the selected objects, ETABS calculates the location of that point as follows. ETABS determines the maximum and minimum global X-coordinate of all selected objects. The global X-coordinate of the center of the selected objects is determined as the

average of the coordinates of the maximum and minimum X coordinates. The global Y-coordinate of the center of the selected objects is determined in a similar manner. If the *Specify* option is selected, the Pick One Point on the Model button becomes enabled. Click the button and then click on the model; note that values will be displayed in the X and Y edit boxes on the Replicate form to indicate the selected point. The rotation angle is input in degrees. Angles are measured from the positive global X-axis. Positive angles appear counter clockwise when you view them from above.

3. Mirror

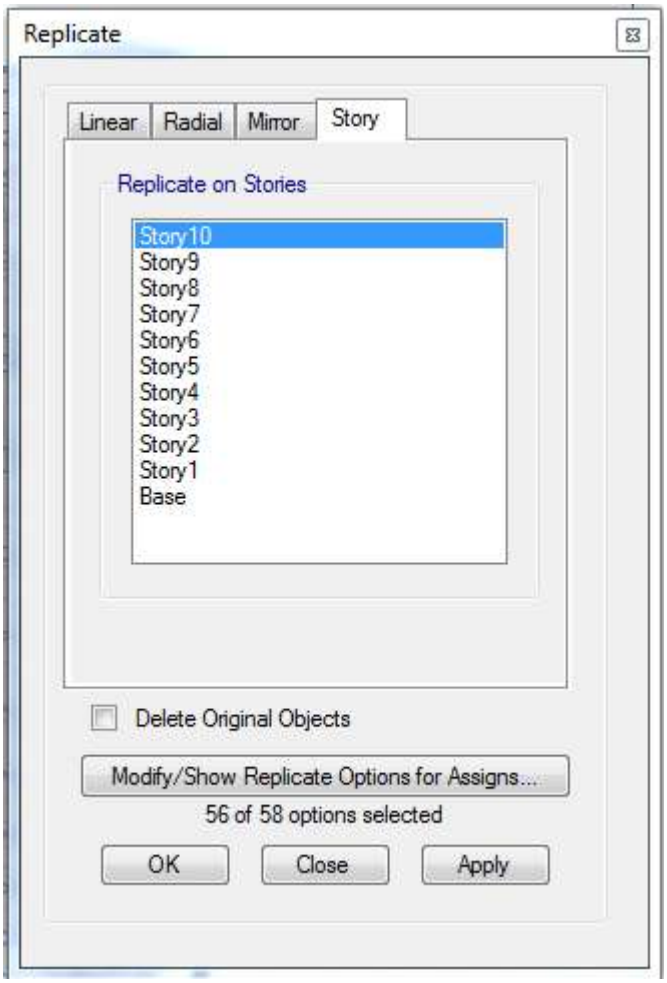
For mirror replication, specify a line in the global X-Y plane to mirror about or if you prefer, think of it as a vertical plane to mirror about. The vertical plane is defined by the specified line in the global X-Y plane and vertical line, parallel to the global Z-axis that intersects the specified line. Specify the line in the X-Y plane by specifying two points (X1, Y1) and (X2, Y2) in global coordinates, or click the **Pick Two Points on Model** button and then click the points on the model; note that the X and Y edit boxes on the form fill with values that correspond to the clicked points. ETABS replicates the selected objects by mirroring the objects and their assignments about the specified line/plane. The figure below illustrates the mirroring process. Note that the projection lines used in the mirroring process (shown dashed in the figure) are perpendicular to the specified mirroring line/plane.



4. Story

For story replication, specify a story upon which the selected objects are to be replicated. The object(s) and its assignments are then copied to that story level. If the story level where objects are selected and the story level to which the object is replicated have different story heights, be aware of the following:

- Elements that extend from one story level to the next still extend from one story to the next when they are replicated, even if the story heights are different.
- Distances are measured from the top of the story down. If an object that is to be replicated lies below the bottom of a story level, that object is placed at the story level. This can happen when you are replicating from a story level that is taller than the story level to which you are replicating.



- **Modify/Show Replicate Options for Assigns** button. Click this button to access the **Replicate Assigns** form. Use that form to include/exclude the assignments made to the original object relative to the replicated object(s).
- **Delete Original Objects** check box. Check the *Delete Original Objects* check box to replicate the object using the above options and also delete the original object.

5. Click the **Apply** button to complete the action specified on this form.

Important note: When using the replication feature, if a replicated object lies in exactly the same location as an existing object, the replication is not completed at that location. The existing object remains. The replication is still completed at other locations.