

Practice 5b

Modifying Objects

Practice Objective

- Modify the location, quantity, and size of objects.

In this practice, you will use the **Move**, **Copy**, **Rotate**, **Scale**, and **Mirror** commands to place furniture in a floorplan, as shown in Figure 5–17. Some of the objects in the drawing are locked in place so that you do not move them by mistake.

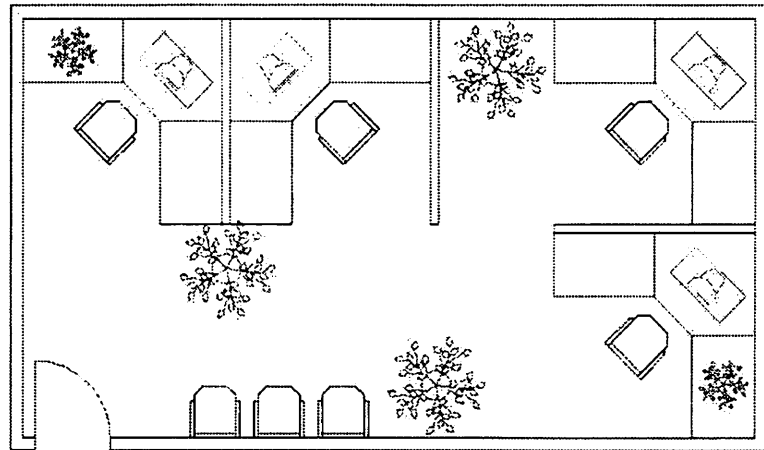


Figure 5–17

Task 1 - Move an object.

In this task you will use the **Move** command to place furniture in a floorplan, as shown in Figure 5–18.

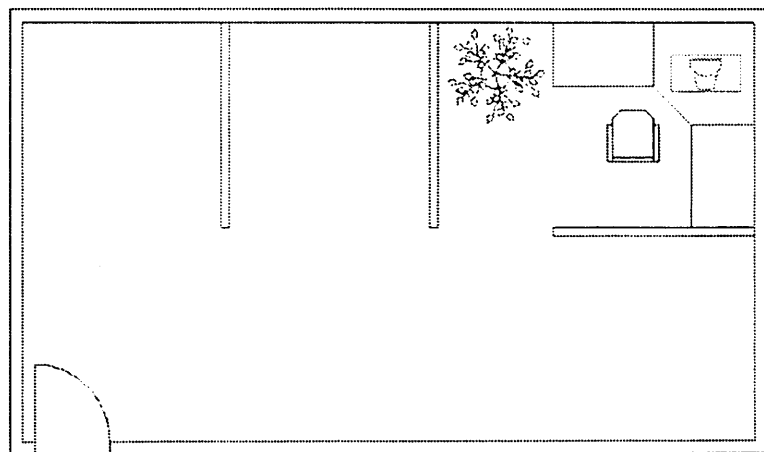






Figure 5–18

1. Open **Arrange-A.dwg** from your practice files folder.
2. In the Status Bar, toggle off  (Polar Tracking) and  (Object Snap Tracking). Toggle on  (Object Snap) and verify that **Endpoint** is selected.
3. In the *Home* tab>Modify panel, click  (Move).
4. Select the desk and press <Enter> to end the object selection.
5. For the base point, snap to the end point at the back corner (upper right) of the desk.
6. Hover the cursor and snap it (without clicking) to the inside corner of the top right cubicle, as shown in Figure 5–19. The original objects fade to gray while the new objects maintain their original properties.

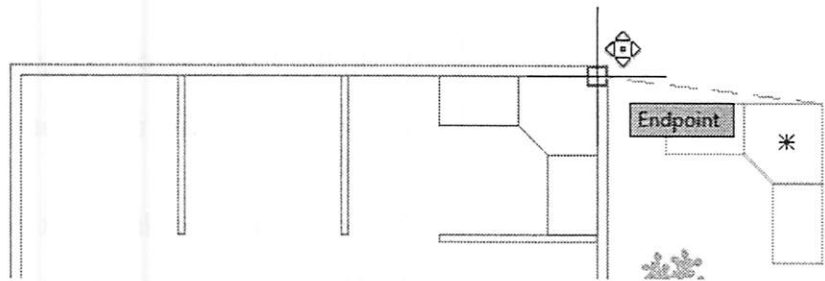



Figure 5–19

7. Click at that point to confirm the move.
8. Toggle off  (Object Snap).
9. Move the chair to place it in front of the desk (use approximate location) and move the PC onto the desk, as shown in Figure 5–18. Do not rotate them now.
10. Move the plant to the open space next to the desk, as shown in Figure 5–18.

Task 2 - Copy an object.

In this task you will use the **Copy** command to copy several chairs and plants in the floorplan, as shown in Figure 5–20.

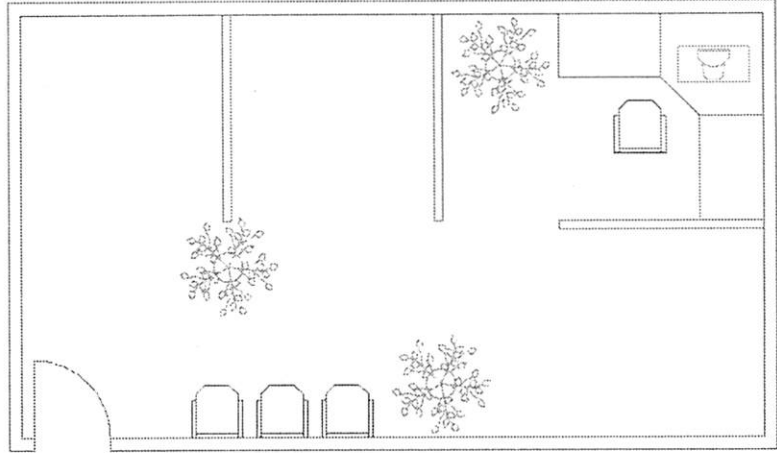



Figure 5–20

1. In the *Home* tab>Modify panel, click  (Copy).
2. Select the plant and press <Enter> to end the object selection.
3. For the base point, click near the center of the plant.
4. Move the cursor near the bottom of the left most inner wall, as shown in Figure 5–21. Note that a copy of the plant is attached with the cursor. A dashed line connects with the cursor indicating the new location with the original object highlighted, as shown in Figure 5–21. Once you locate the required location for the copy (bottom of the leftmost inner wall), click to place the plant.

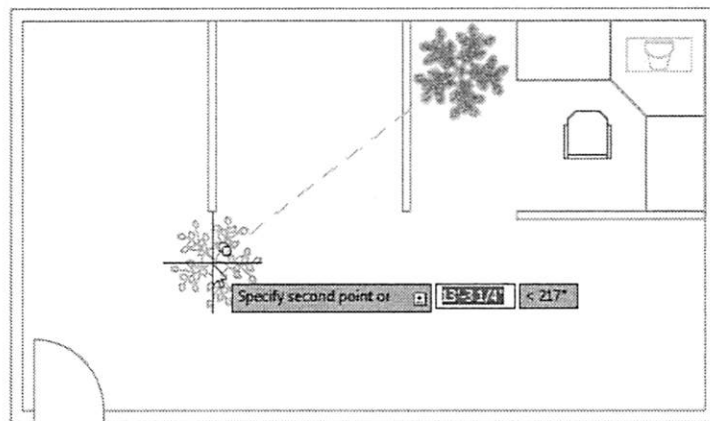


Figure 5–21

5. With the plant and the dashed line still attached to the cursor, move the cursor again and click to place another copy along the bottom wall. Press <Enter> to exit the command.
6. Copy the chair to the locations shown in Figure 5–20. (Tip: To position the chairs flush along the wall, use the **Midpoint** or **Endpoint** object snap to select the base point at the back of the chair. Then, select the **Nearest** object snap override (<Shift>+ right-click) to select points along the wall.)

Task 3 - Rotate an object.

In this task, you will rotate the chair and PC and then copy the entire set of furniture to other locations, as shown in Figure 5–22.

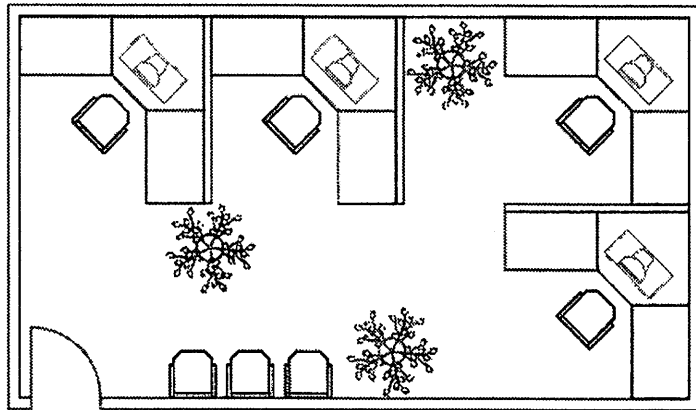






Figure 5–22

1. In the Status Bar, expand  (Polar Tracking) and select **45,90,135,180...**, if required. Toggle on  (Polar Tracking) and toggle off  (Object Snap).

- In the *Home* tab>Modify panel, click  (Rotate) and select the chair near the desk. Press <Enter> and select the base point near the center of the chair's seat. Pull the cursor away from the chair until you see the 315 degree angle (multiple of 45) and the seat is facing the desk, as shown in Figure 5–23. Note that the original objects fade to gray while the new objects maintain their original properties. Click to accept the angle.

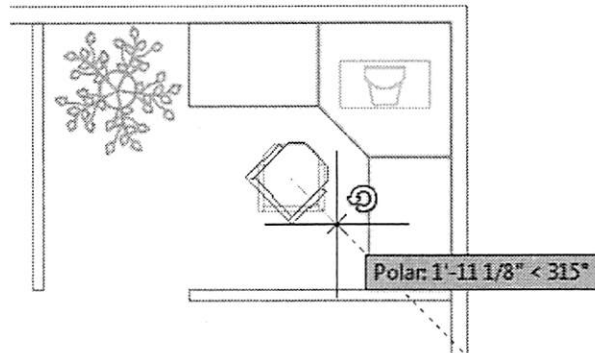



Figure 5–23

Select the object, hold <Ctrl>, and then use the required arrow key to nudge the objects in place.

- Repeat the process to rotate the PC using 135 degree angle such that the monitor is facing the chair, as shown in Figure 5–22.
- Move the chair as required, to place it correctly in front of the desk. Do the same for the PC to center it on the desk.
- Toggle on  (Object Snap) and verify that it is set to **Endpoint**.
- Start the **Copy** command. Select the chair, desk, and PC, and then press <Enter>. For the base point, select the back corner (top right) of the desk. Copy the objects to the other three cubicles, as shown in Figure 5–22.
- Save the drawing.

Task 4 - Scale an object.

In this task you will copy and scale some of the plants, as shown in Figure 5–24.

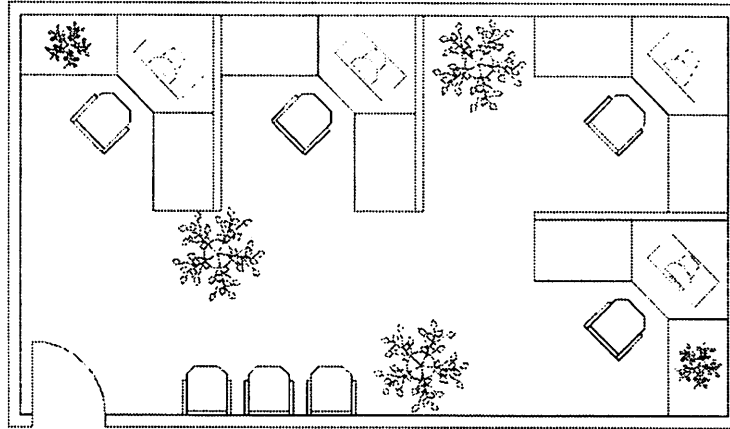



Figure 5–24

1. Copy one of the plants to the desk in the upper left cubicle.
2. In the *Home* tab>Modify panel, click  (Scale). Select the plant, press <Enter>, and select the center of the plant as the base point. Enter 0.5 for the scale factor and press <Enter> to make it half of the original plant.
3. Copy the scaled plant to the desk in the lower right cubicle.

Task 5 - Mirror objects.

In this task you will use the **Mirror** command to mirror the contents of a cubicle, as shown in Figure 5–25.

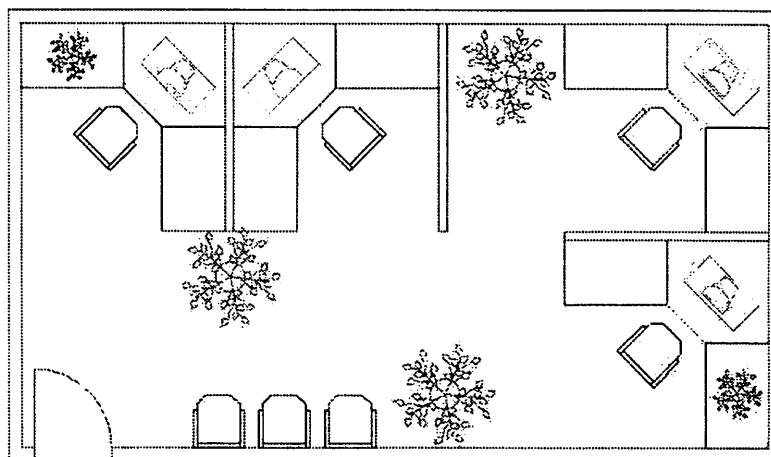



Figure 5–25

1. In the *Home* tab>*Modify* panel, click  (Mirror).
2. At the *Select objects:* prompt, select the desk, PC, and chair in the middle cubicle, and press <Enter>.
3. At the *Specify first point of mirror line:* prompt, select the end point of the line that separates the corner desk section from the straight desk section at the top of the cubicle, as shown on the left in Figure 5–26.
4. At the *Specify second point of mirror line:* prompt, select a bottom end point, as shown on the right in Figure 5–26. At the *Erase source objects?* select **Yes** from the drop-down list. The contents of the middle cubicle are mirrored and the original objects are deleted.

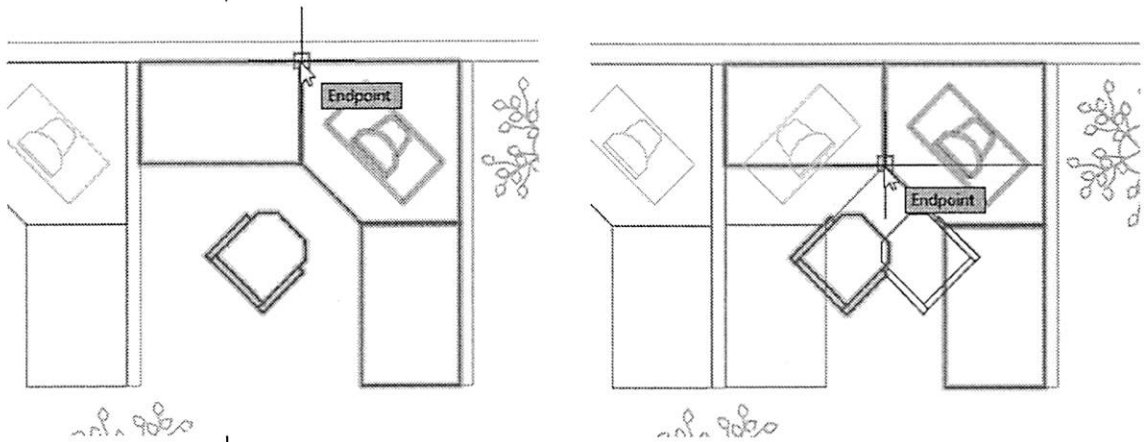


Figure 5–26

5. Save and close the drawing.