Overview
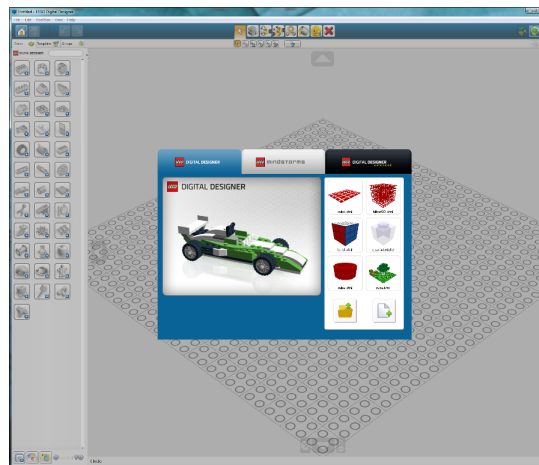
In this activity you will be manually placing 2x1 bricks in LEGO Digital Designer (LDD).
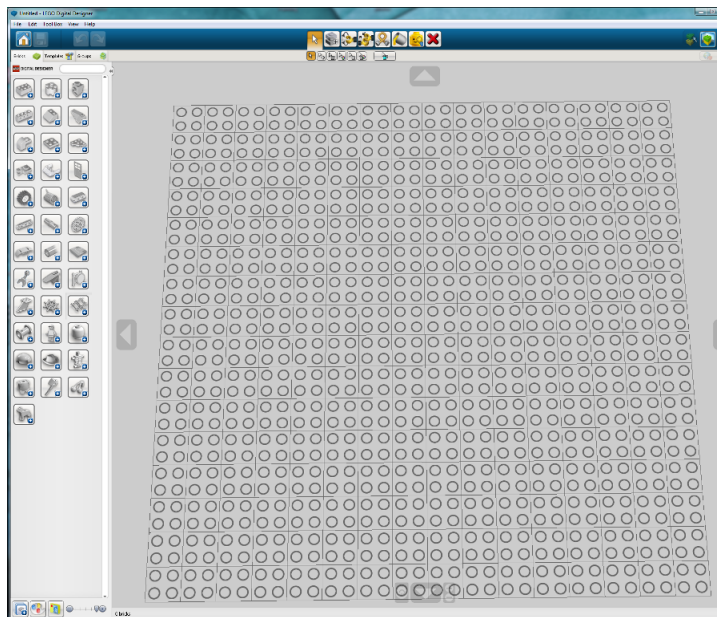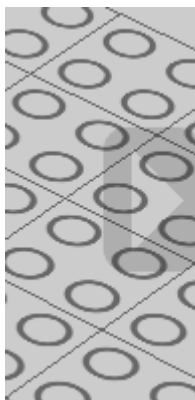
Step 1: Open LDD in Free-Build Mode

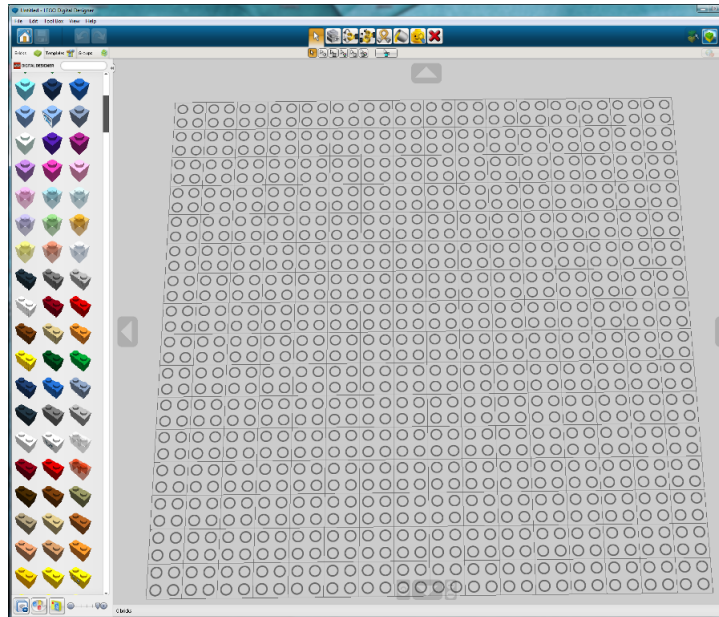Using the left mouse button, click on the bottom right corner of the pop-up window.

Step 2: Rotate Base Plate Counterclockwise a Quarter Turn

Using the left mouse button, click on the right arrow in the LDD display to rotate the base plate one quarter turn to the right. The click on the bottom arrow so that you are looking down on the base plate.
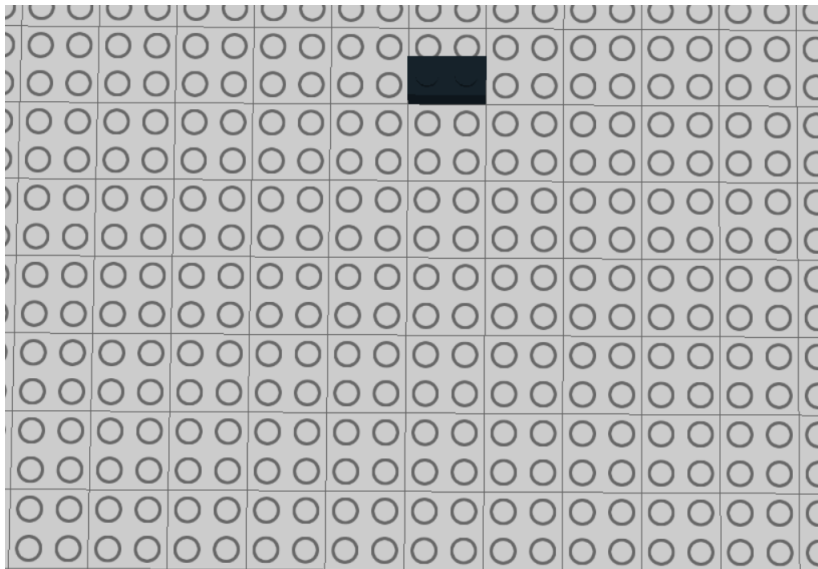
Step 3: Navigate to 2x1 Bricks

In the brick pane on the left, click on the upper left brick. Then scroll down until you start seeing 2x1 bricks.
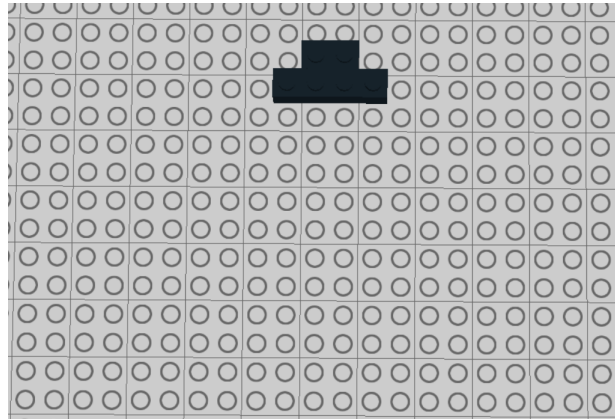

Step 4: Placing 2x1 Bricks

The algorithm below is defined using black and white bricks. However, feel free to substitute any two distinct colors you like (e.g., blue, red).
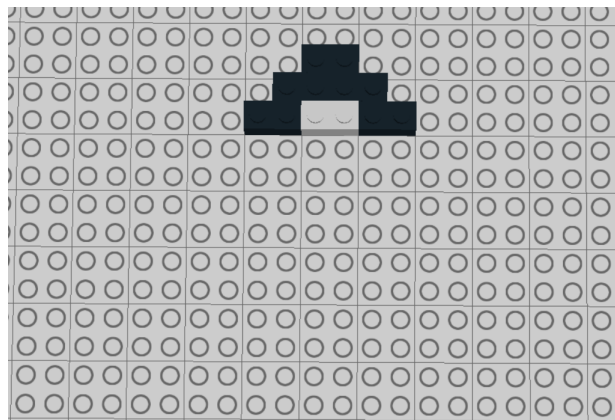
Row 1: Using the mouse, place a 2x1 black brick in the center of the board.
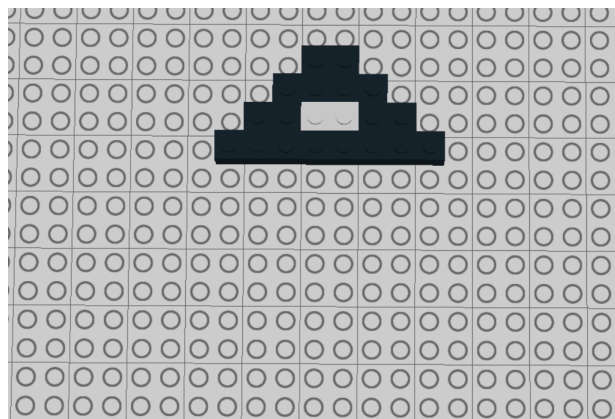
Row 2: For the second row you must place two 2x1 black bricks starting one square to the left of where the previous row began. (If you are having trouble getting a brick to go where you want it to try placing it incorrectly and then move it into the proper position.)
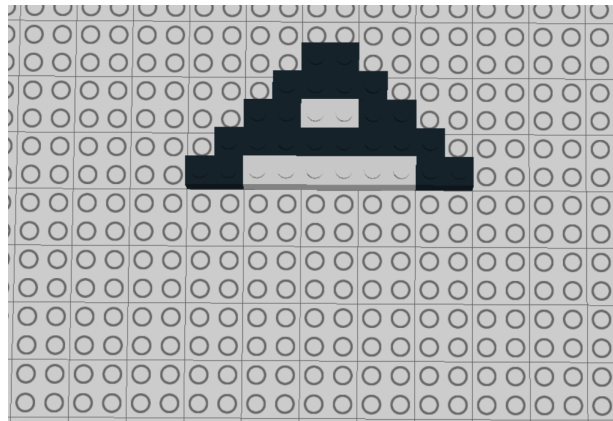

Row 3: This row contains three 2x1 bricks and starts one square to the left of the previous row. Notice that the second brick is a white brick. This is because the positions above the white brick are occupied by bricks having the same color (in this case black). **IMPORTANT:** It is only when this condition is satisfied that a white brick should be placed. In all other cases a black brick should be placed.
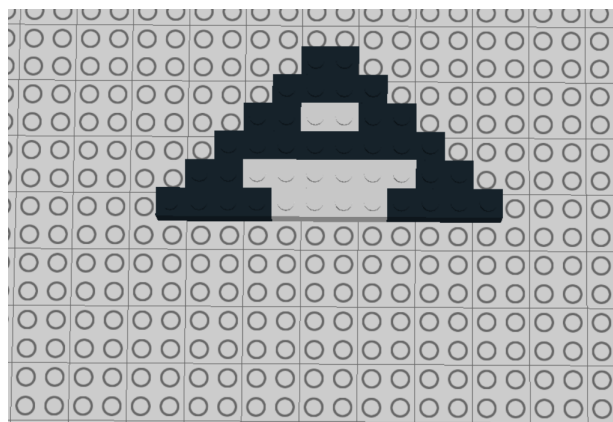

Row 4: This row contains four 2x1 bricks and begins one position to the left of the previous row. Notice that this row consists exclusively of black bricks – since the conditions for placing a white brick are never satisfied.
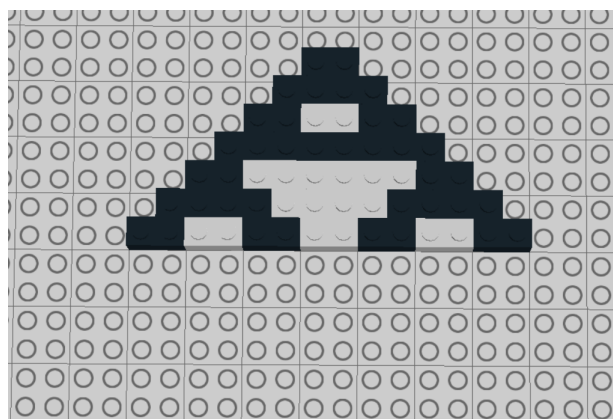
Row 5: This row contains one more 2x1 bricks than the previous row and begins one position to the left of the previous row. Notice that 2x1 white bricks are placed in all positions where the positions above are the same colore (in this case black).
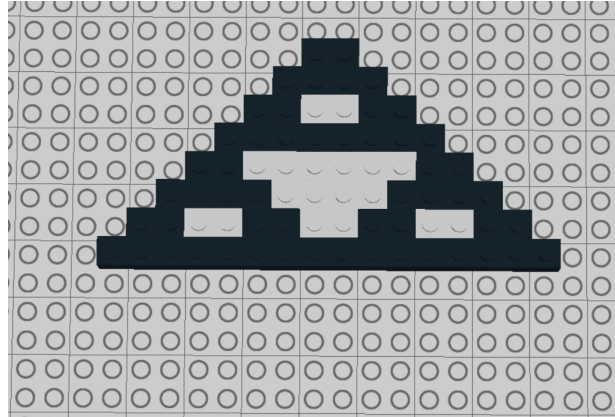

Row 6: This row contains one more 2x1 bricks than the previous row and begins one position to the left of the previous row. Note that the white bricks are placed in positions where the position above them have the same color (in this case white).

Row 7: This row contains one more 2x1 bricks than the previous row and begins one position to the left of the previous row. Note that the white bricks are placed in positions where the position above them have the same color. For the first and third white brick the positions above are black. For the second white brick, the position above is white.

Row 8: This row contains one more 2x1 bricks than the previous row and begins one position to the left of the previous row.

The Challenge

Continue the construction until there are 16 rows.