

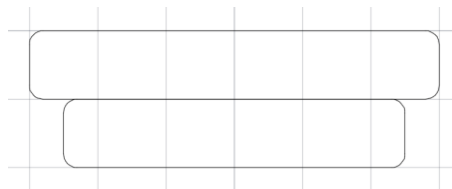
Stained glass structure. Tips:

1. Switch off **dynamic input** (in the exercise given are absolute coordinates – it is quicker to define them without dynamic input, if the dynamic input is on it necessary to use # sign in order to specify absolute coordinates).
2. Draw the column capital using **rectang** and **fillet**.

Draw two rectangles using **rectang** – determine two opposite corners of both of them: 70,100 and @60,-10 (the upper one), 75,90 and @50,-10 (the lower one).



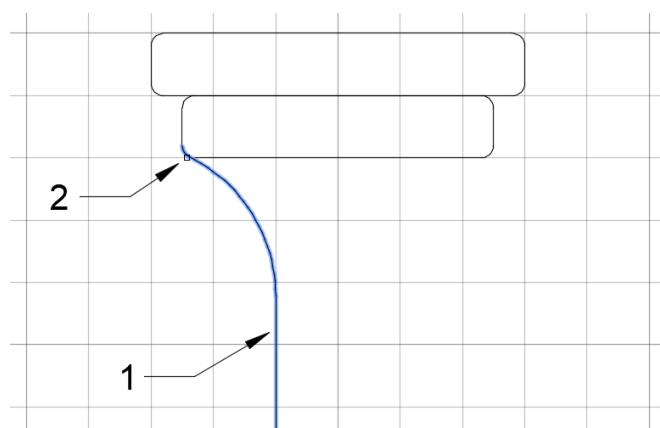
Round the corners of both rectangles using **fillet** – specify radius (option **R** – set to 2) and use polyline mode (option **P**).



3. Draw the column.

Draw a line from 90,55 to 90,-300.

Explode the lower rectangle. Using **fillet** draw an arc (of radius 25) connecting the line and the bottom left rounded corner of the exploded rectangle: specify radius firstly (option **R**) and select objects to draw a connection between them.

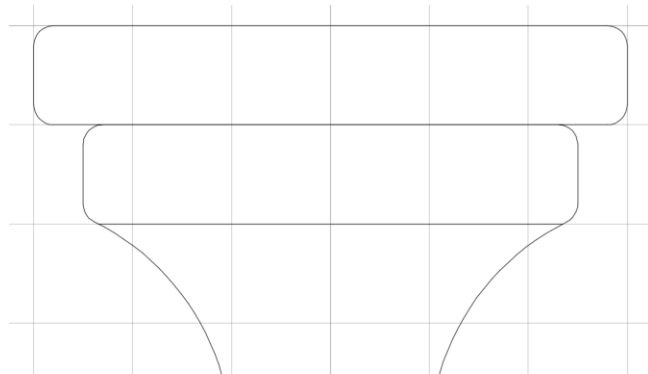


Extend the lower line of the lower rectangle to the left (to connect the line with the boundary).

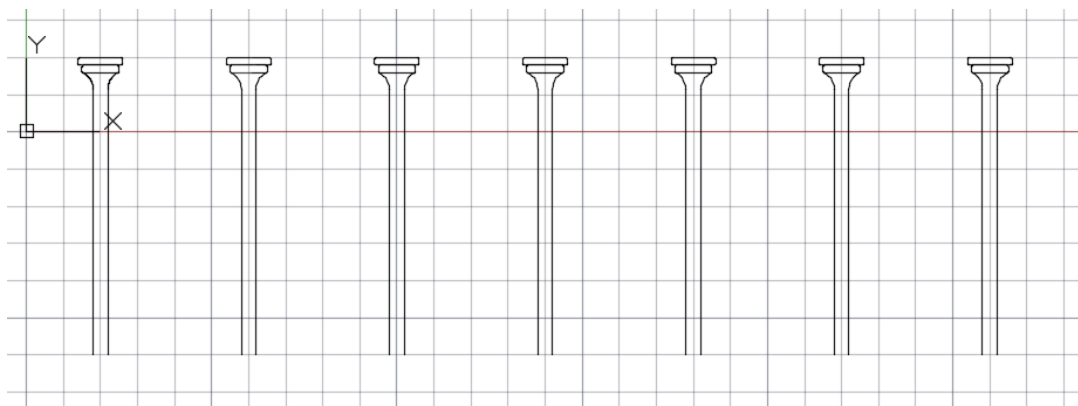


Draw remaining parts of the column: draw a line (using e.g. **mirror**) and repeat above procedure to connect the new line and the rounded rectangle.

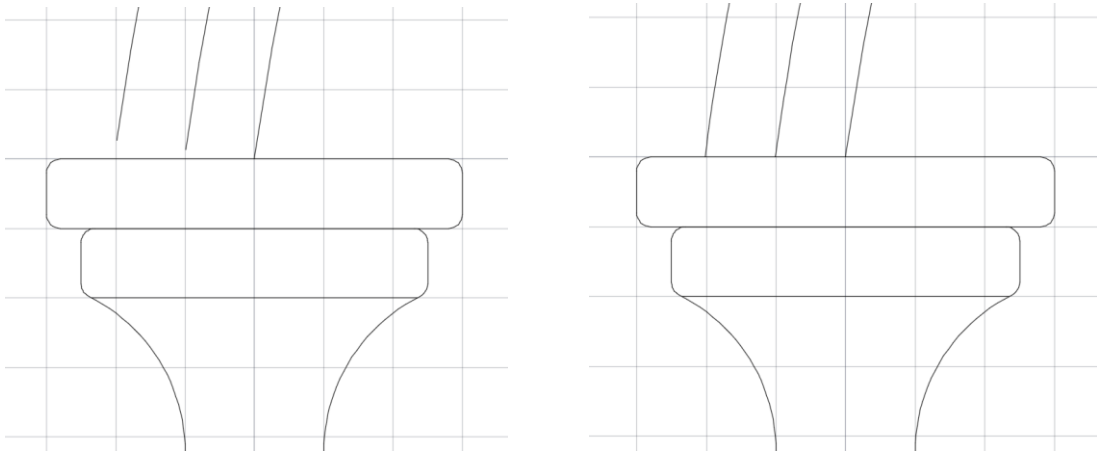
Attention: as mirror line (mirroring axis) do not use the midpoint of the lower line of the lower rectangle, which – after extending to the left – is no longer symmetrical, use midpoints of the horizontal lines of the upper rectangle instead. Mirror only the line – to obtain smooth connection between line and the rounded rectangle one must repeat rounding procedure using **fillet** and **extend**.



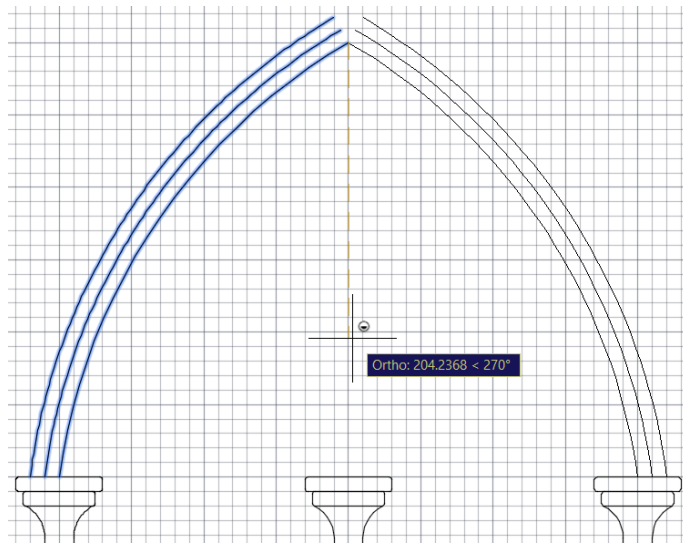
4. Use **array** to copy the column – choose rectangular array (1 row, 7 columns with distance between columns of 200, non-associative array).



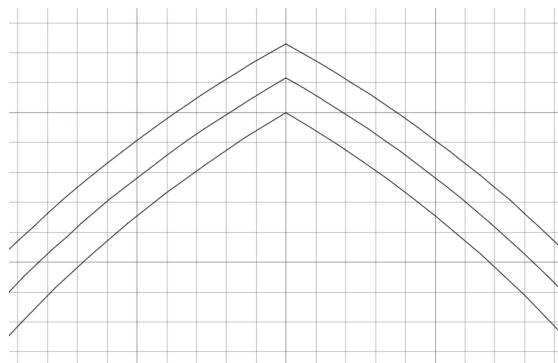
5. Draw an **arc** (3-point arc) through the points: 100,100; 110,150 and 300,400. Use **offset** with distance 10 to copy the arc to the left/top twice. **Extend** obtained arcs to the column capital.



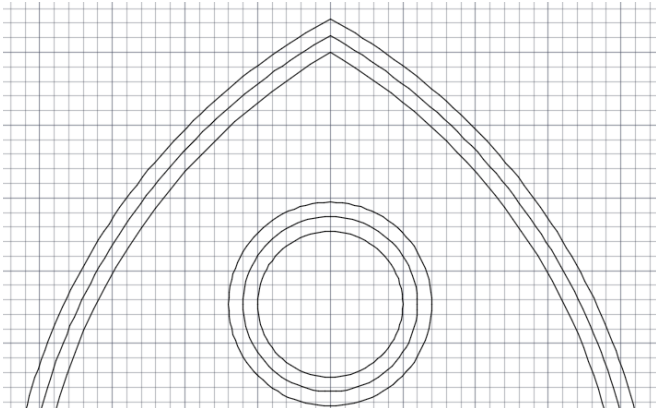
6. **Mirror** the arcs across the vertical line going through the point 300,400 (top/right end of the most lower arc).



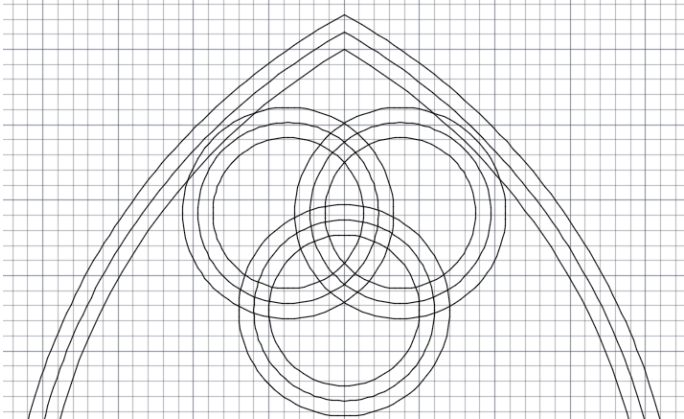
7. Connect upper ends of the arcs using **fillet** with radius of 0.



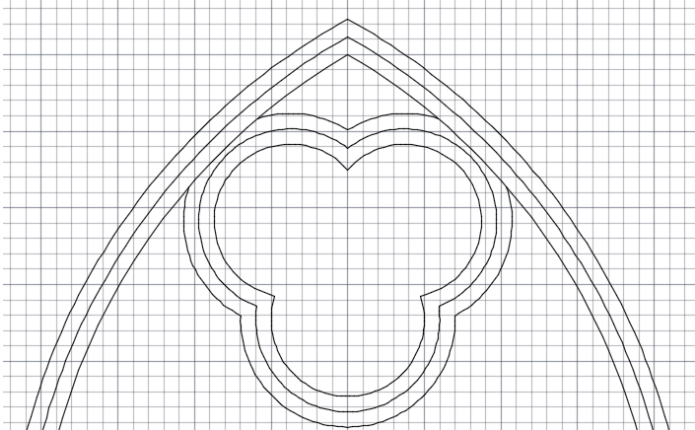
- 8. Draw a **circle** of centre at point 300,227 and radius 70. Use **offset** inwards with distance of 10 to create two more concentric circles inside the first circle.



Copy all circles in a **polar array** (specify: centre of the array at point 300, 270, number of items – 3, non-associative).



Using **trim** and **erase** remove all superfluous elements.

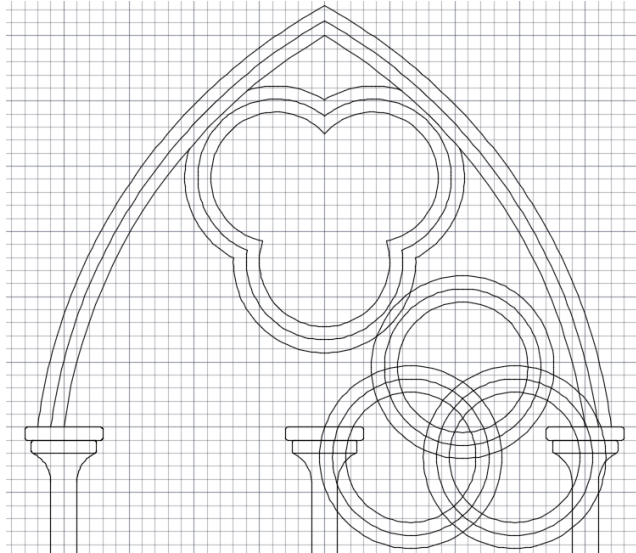


- Repeat the procedure described previously (step 8) for another circle.

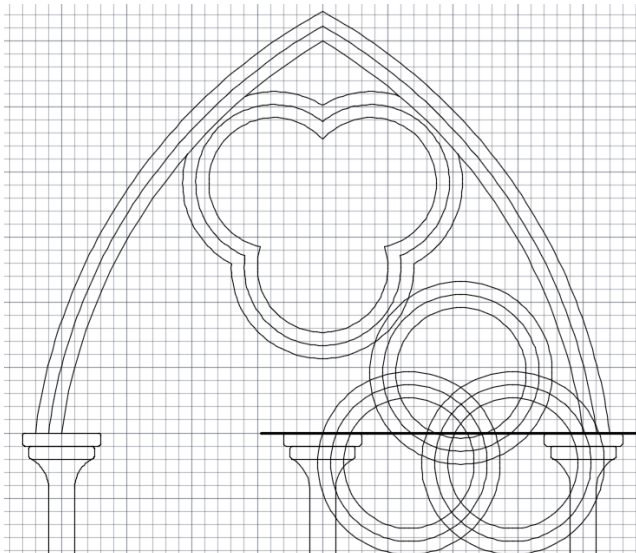
Draw a **circle** of centre at point 406,146 and radius 70.

Use **offset** inwards with distance of 10 to create two more concentric circles inside the first circle.

Copy all circles in a **polar array** (specify: centre of the array at point 406, 100, number of items – 3, non-associative).

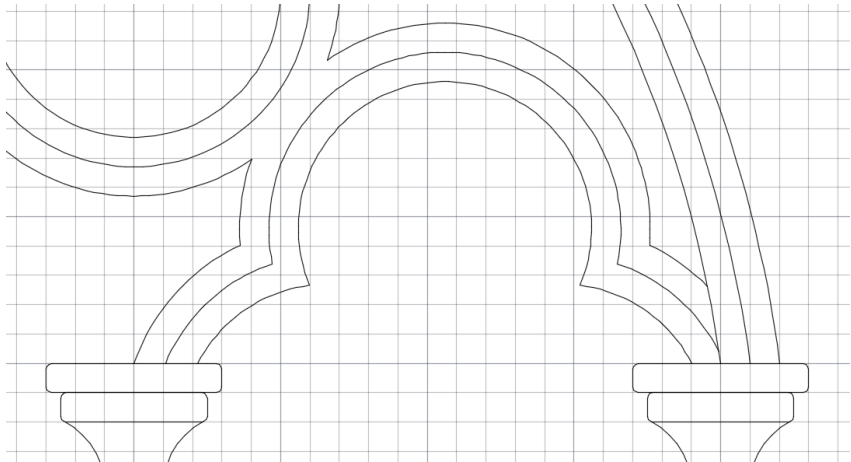


Draw an extra **line** through the most upper edges of the column capitals.

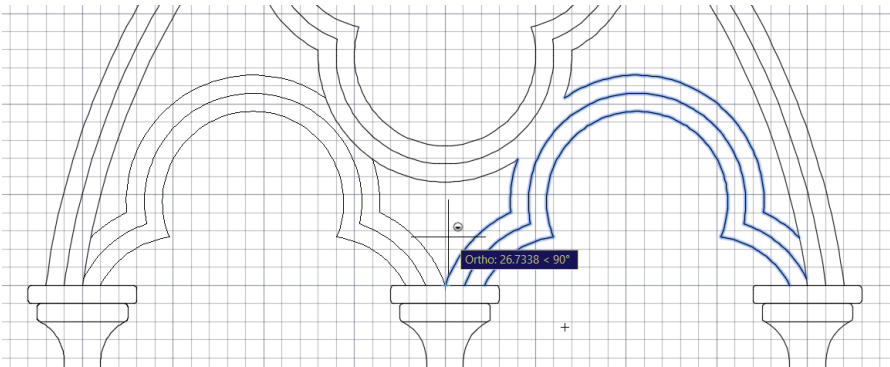


Use that line as an extra cutting edge. Remove all superfluous elements using **trim** and **erase**. Remove drawn line.

Stained glass structure. Tips. Draft

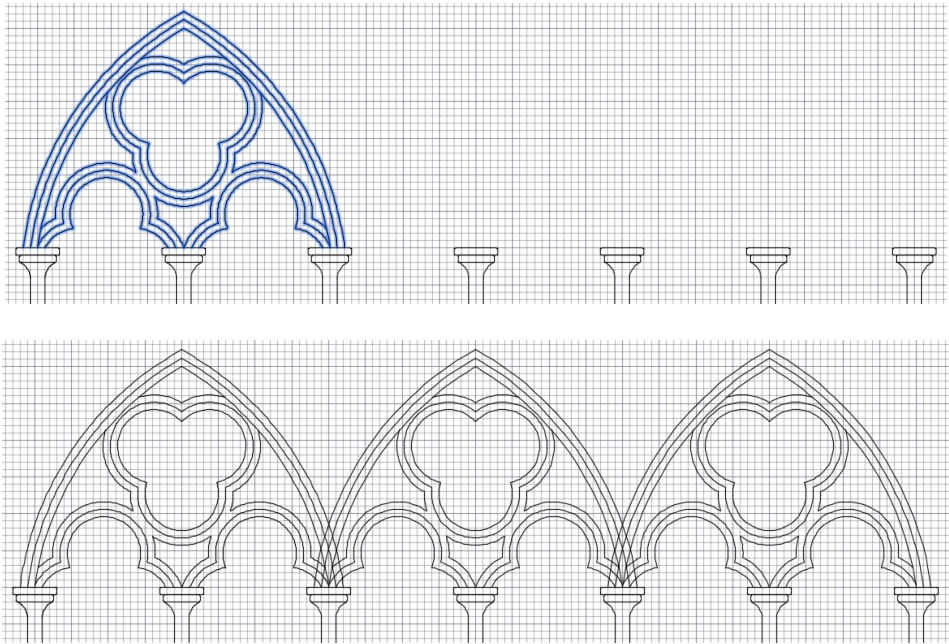


Use **mirror** to copy the obtained part to the left.

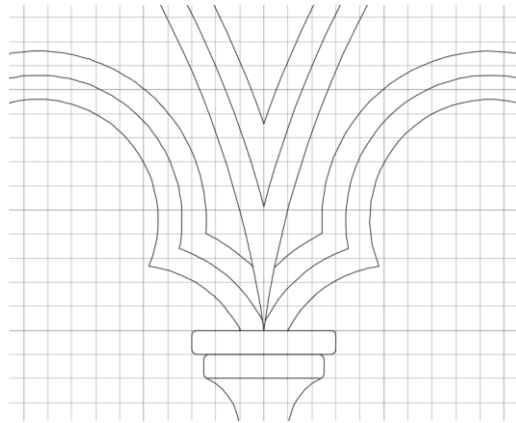


Remove the superfluous element.

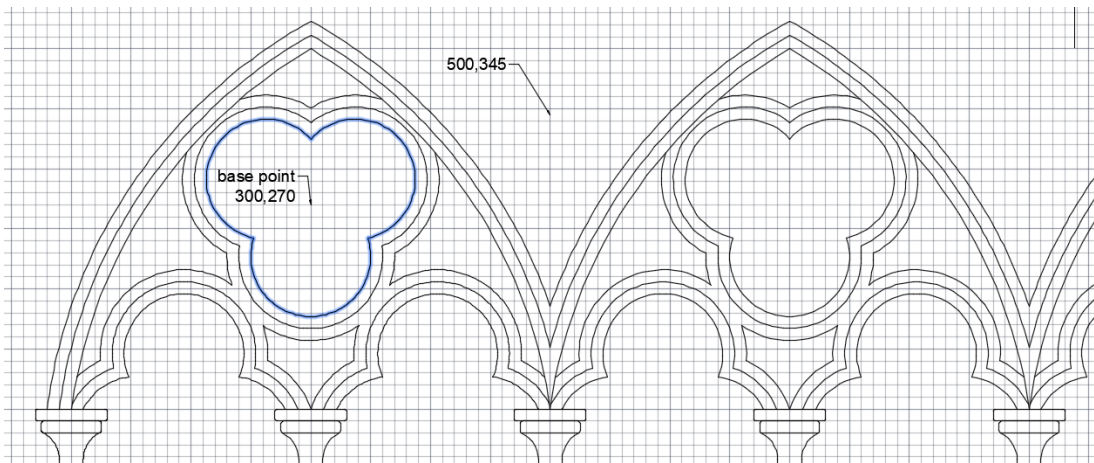
- 10. Copy the upper part of stained glass structure using **rectangular array** (1 row, 3 columns with distance between columns of 400, non-associative).



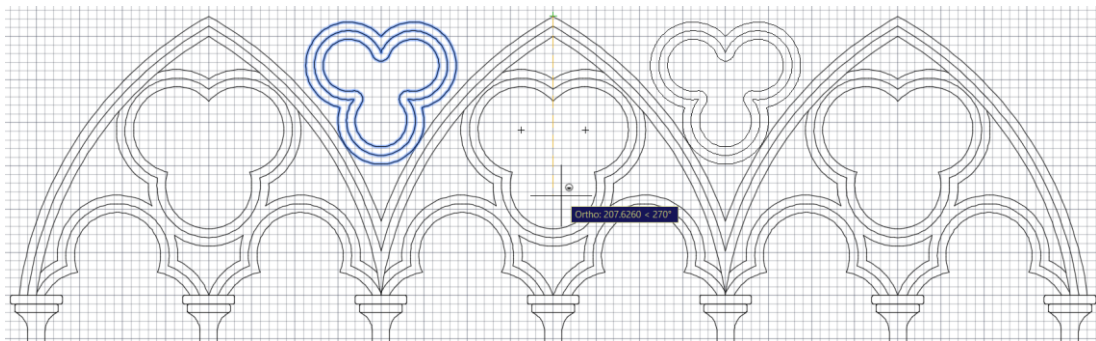
Remove all superfluous elements using **trim** and **erase**.



11. **Copy** inner boundary of the polar array created in step 8 – as base point select centre of the array (point 300,270). Specify the centre of the copy as 500,345.



Convert copied elements into one single polyline using **join** command. Use **offset** inwards with distance of 10 to create two more copies inside. **Mirror** obtained structure to complete the drawing.



Stained glass structure. Tips. Draft

Final drawing:

