**SHAPE HIERARCHY**

\*\*1. Shape\*\*

- The top-level class representing all shapes.

\*\*2. TwoDimensionalShape (extends Shape)\*\*

- Represents shapes that have only two dimensions.

- \*\*Subclasses:\*\*

- \*\*Polygon\*\*

- Represents any polygonal shape.

- \*\*Subclasses:\*\*

- \*\*Triangle\*\*

- \*\*Quadrilateral\*\*

- \*\*Subclasses:\*\*

- \*\*Square\*\*

- \*\*Rectangle\*\*

- \*\*Rhombus\*\*

- \*\*Trapezoid\*\*

- \*\*Parallelogram\*\*

- \*\*Kite\*\*

- \*\*Pentagon\*\*

- \*\*Hexagon\*\*

- \*\*Heptagon\*\*

- \*\*Octagon\*\*

- \*\*Nonagon\*\*

- \*\*Decagon\*\*

- \*\*CurvilinearShapes\*\*

- Represents shapes with curved lines.

- \*\*Subclasses:\*\*

- \*\*Circle\*\*

- \*\*Ellipse\*\*

- \*\*Arc\*\*

- \*\*Crescent\*\*

- \*\*HeartShape\*\*

- \*\*Other 2D Shapes\*\*

- \*\*StarShape\*\*

- \*\*Lune\*\*

- \*\*Sector\*\* (of a circle)

- \*\*Annulus\*\* (ring shape)

- \*\*Scribble\*\* (irregular shapes)

\*\*3. ThreeDimensionalShape (extends Shape)\*\*

- Represents shapes that have three dimensions.

- \*\*Subclasses:\*\*

- \*\*Polyhedron\*\*

- Represents solid shapes with flat polygonal faces.

- \*\*Subclasses:\*\*

- \*\*Cube\*\*

- \*\*Tetrahedron\*\*

- \*\*Pyramid\*\*

- \*\*Subclasses:\*\*

- \*\*Square Pyramid\*\*

- \*\*Triangular Pyramid\*\*

- \*\*Prism\*\*

- \*\*Subclasses:\*\*

- \*\*Triangular Prism\*\*

- \*\*Rectangular Prism\*\*

- \*\*Hexagonal Prism\*\*

- \*\*CurvedShapes\*\*

- Represents shapes with curved surfaces.

- \*\*Subclasses:\*\*

- \*\*Sphere\*\*

- \*\*Cylinder\*\*

- \*\*Cone\*\*

- \*\*Ellipsoid\*\*

- \*\*Torus\*\*

- \*\*Other 3D Shapes\*\*

- \*\*Frustum\*\* (truncated cone or pyramid)

- \*\*Octahedron\*\*

- \*\*Dodecahedron\*\*

- \*\*Icosahedron\*\*

### Summary

This hierarchy organizes various two-dimensional and three-dimensional shapes into logical categories, reflecting both their geometric properties and structural relationships. You can further expand it based on specific requirements or additional shape types you may encounter.