Platonic Solids - a shape that has regular polygons

1. Cube
2. Tetrahedron
3. Octahedron
4. Dodecahedron
5. Iscoahedron

Coordinates in a file

Transformations of a wireshape

* After transformation, connect points in the same order
* Rotation
* Scaling
* Translation

**Scale**

X’ = Sx \* X

Y’ = Sy \* Y

\*\*\*If you do a scaling factor, keep all the scaling factors the same to avoid distorting the shape

**Translation**

X’ = X + Tx

Y’ = Y + Yy

**Rotation**

X’ = xcos(thetha) + ysin(thetha)

Y’ = xsin(theta) + ycos(thetha)

Do at least two rotations

**Project 8.1 - Rotation of a platonic solid & a video of it**

* Video → an array of frames
* A frame → take the 3D points and transform them to X’ → projection on 2D plane → (x,y)
* 3 Projections that we will look at:
  + Orthographic projection
    - Keeps parallel lines parallel

Frame 1:

* Apply transformations (the minimum)
  + A Scale (ex. \*100)
  + A rotation around z (ex theta = 0 degrees)
* Orothographic projection
* Create image
  + 800 width
  + 600 height
  + Origin is right in the middle of the image