Assignment2 / {Transformations}

Graphics Programming

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Mirror / {Pic_1_1}

- *Task:* Mirror Image 1 Over the Y-Axis.

image1.png

pic_1_1.png

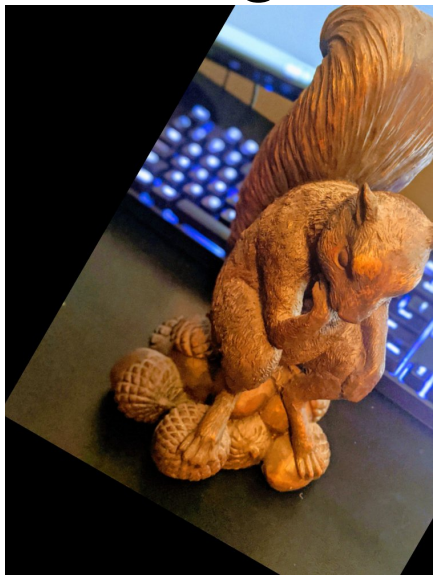
Mirror / {Pic_1_1} / [matrix]

- Mirror Transformation Matrix:
  - mirror=np.float64([[-1,0,w1],[0,1,0],[0,0,1]])

Rotate30 / {Pic_1_2}

- *Task:* Rotate Image1 30 degrees.

image1.png



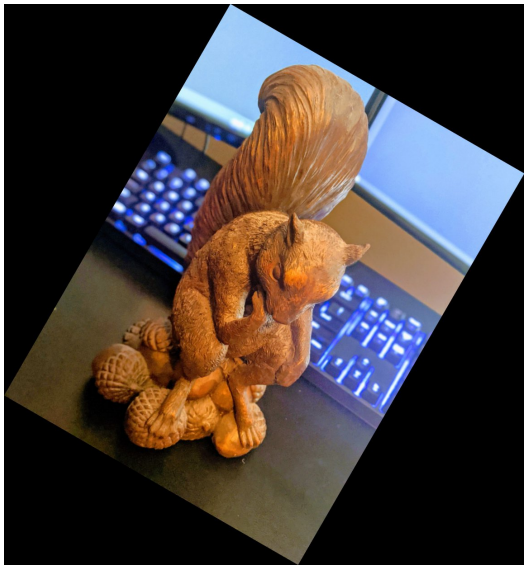
pic_1_2.png

Rotate30 / {Pic_1_2} / [matrix]

- Rotate Transformation Matrix:
  - rotate30=np.float64([[-np.cos(angle), np.sin(angle),0],[np.sin(angle),np.cos(angle),0], [0,0,1]])

NoMargins / {Pic_1_3}

- *Task:* Rotate30 without any extra margins.



pic_1_3.png

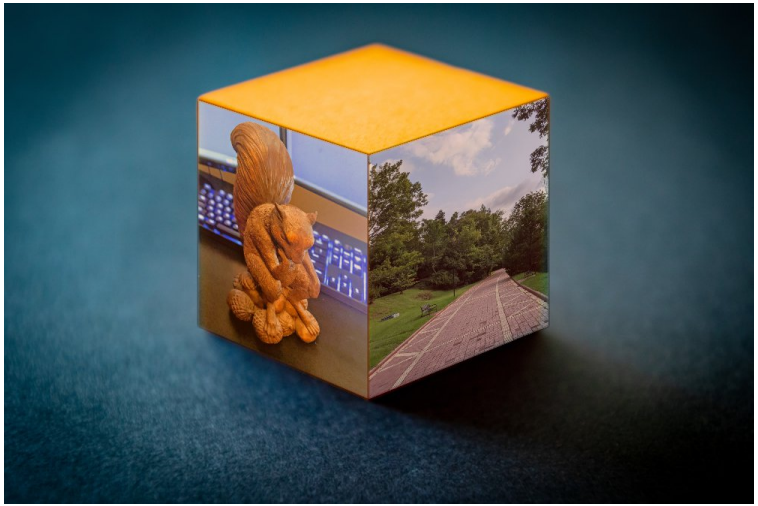
NoMargins / {Pic_1_3} / [matrix]

- Dimension Calculations:
  - side1=h1*np.sin(ninety-angle)/np.sin(ninety)
    side2=h1*np.sin(angle)/np.sin(ninety)
    side3=w1*np.sin(ninety-angle)/np.sin(ninety)
    side4=w1*np.sin(angle)/np.sin(ninety)
  - newHeight=np.uint64(side1+side4)
    newWidth=np.uint64(side2+side3)
- Transformation Matrix:
  - modify=np.float64([[1,0,h1//4],[0,1,0],[0,0,1]])

Cube / {Pic_1_4}

- *Task:* Transpose Image 1 & 2 onto two faces of a cube.

image1.png



pic_1_4.png

image2.png

Flatten / {Pic_1_5}

- *Task:* Flatten the object in Image 4.

image4.png

pic_1_5.png