Things To Do

- Try watershed segmentation

- Get external data

- Find way to detect nodules using gray level, object shape

- Try pyCharm

- Optical flow

Things I've Done

- Download data

- Read/Implement processing tutorials

- Separate cancer/non-cancer patients

- Load labels into python

- Manually try to identify slices with nodules

Notes/Ideas

- CAD systems can identify slices with potential cancerous nodules. Possibly use CNNs or other machine learning methods to use the output of CAD systems as input to classify the potential nodules as cancerous or non cancerous.

- The CAD systems derive a set of input features such as contrast, area, circularity of the nodules and feed them into ANNs.

- Use gray level and object shape for nodule detection

- Maybe find way to get 3D bounding box of nodules from a 3D matrix and use shape

- Features used for cancer diagnosis: Energy, Entropy, Contrast, Inverse Difference Moment, Mean,

Std. Deviation, Dissimilarities, Homogeneity, Correlation. (From CAD paper)