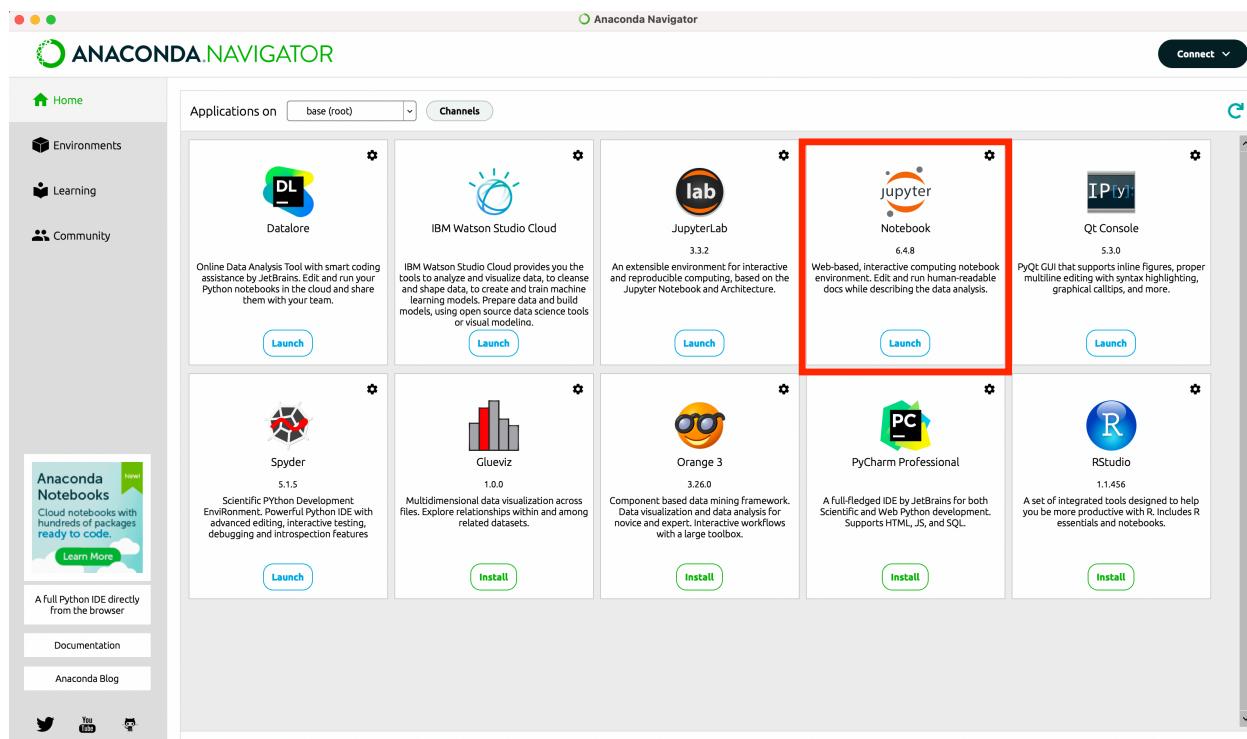




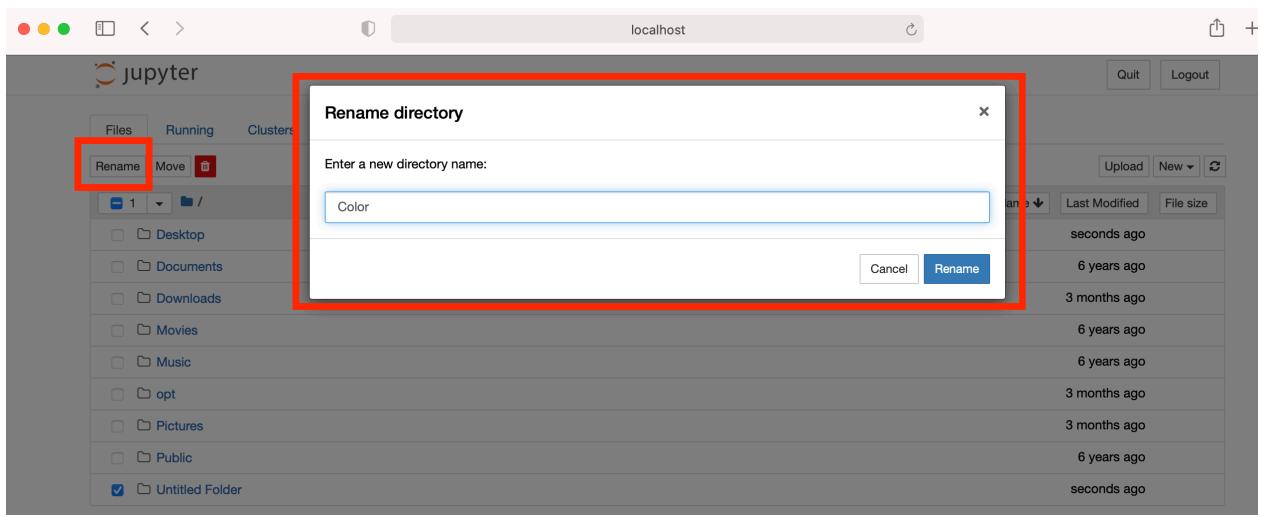
## 1. open Anaconda-Navigator



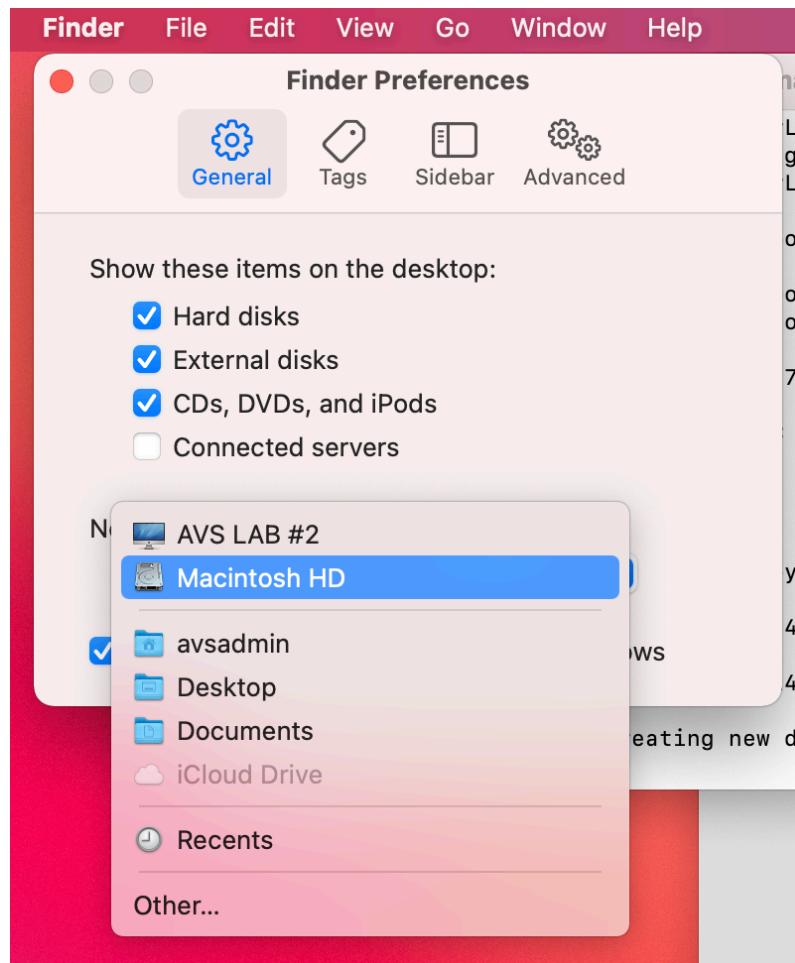
## 2. open Jupyter Notebook



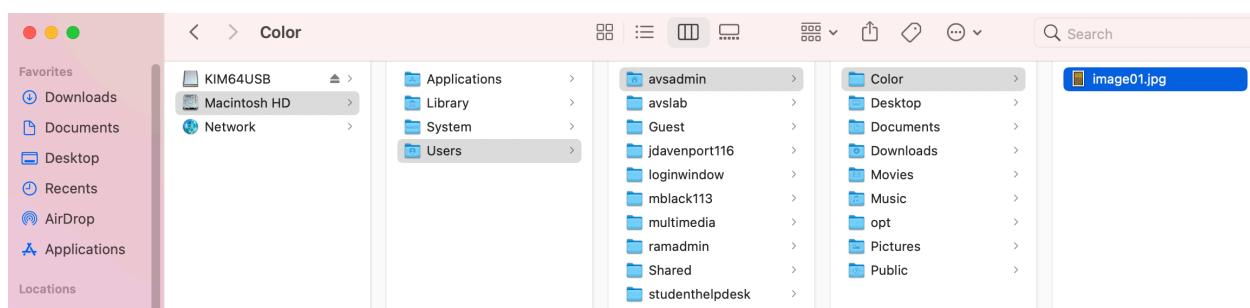
### 3. New - Folder



### 4. Rename as Color



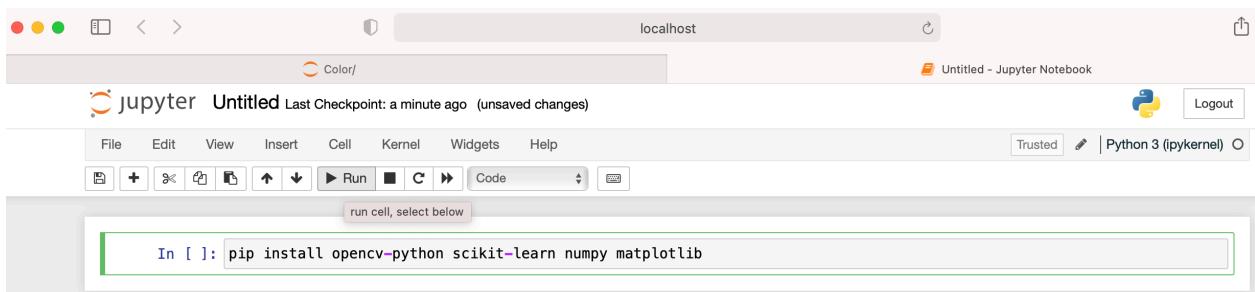
## 5. Finder - Preference - Macintosh HD



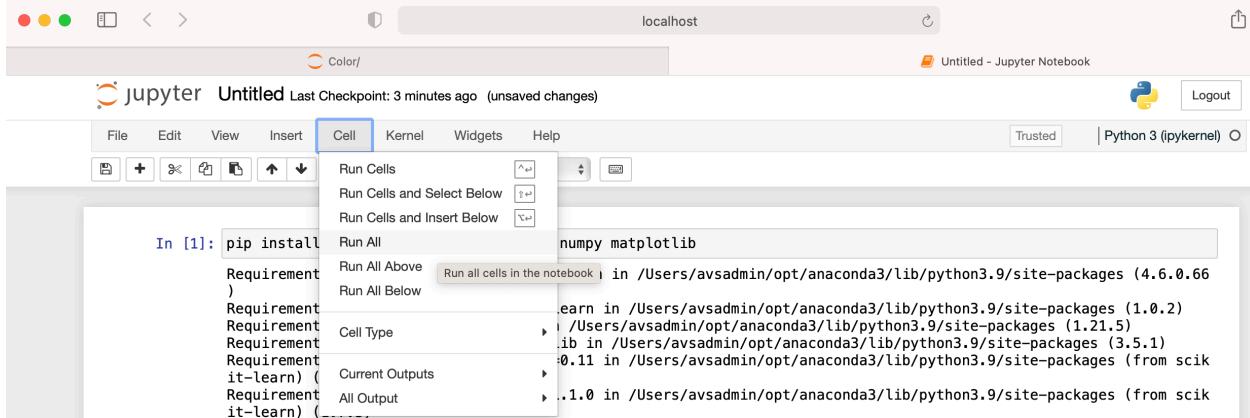
## 6. Find a folder “Color” you created. Copy your 3 photos (image01.jpg, image02.jpg, image03.jpg)



7. Go to Jupyter Notebook.  
Go to a folder “Color”  
Create New - Python 3 (notebook)



8. Follow coding.



## 9. After you add all coding, Cell - Run All

A screenshot of a Jupyter Notebook window titled 'Untitled'. The code cell 'In [9]' shows the command 'pip install opencv-python scikit-learn numpy matplotlib'. The output cell 'Out[9]' shows the results of the pip installations. The code cell 'In [10]' contains imports for Counter, KMeans, colors, plt, np, and cv2. The code cell 'In [11]' contains the command 'image = cv2.imread('image01.jpg')' followed by 'plt.imshow(image)'. The output cell 'Out[11]' shows the resulting image, which is a yellow object with two black 'A' shapes on it.

```
In [9]: pip install opencv-python scikit-learn numpy matplotlib
Requirement already satisfied: opencv-python in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (4.6.0.66)
Requirement already satisfied: scikit-learn in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (1.0.2)
Requirement already satisfied: numpy in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (1.21.5)
Requirement already satisfied: matplotlib in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (3.5.1)
Requirement already satisfied: threadpoolctl>=2.0.0 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from scikit-learn) (2.2.0)
Requirement already satisfied: scipy>=1.0.0 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from scikit-learn) (1.7.3)
Requirement already satisfied: joblib>=0.11 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from scikit-learn) (1.1.0)
Requirement already satisfied: pillow>=6.2.0 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (9.0.1)
Requirement already satisfied: pyparsing>=2.2.1 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (3.0.4)
Requirement already satisfied: cycler>=0.10 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (4.25.0)
Requirement already satisfied: kiwisolver>=1.0.1 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (1.3.2)
Requirement already satisfied: packaging>=20.0 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (21.3)
Requirement already satisfied: python-dateutil>=2.7 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (2.8.2)
Requirement already satisfied: six>=1.5 in /Users/avsdadmin/opt/anaconda3/lib/python3.9/site-packages (from python-dateutil) (2.7-matplotlib) (1.16.0)
Note: you may need to restart the kernel to use updated packages.

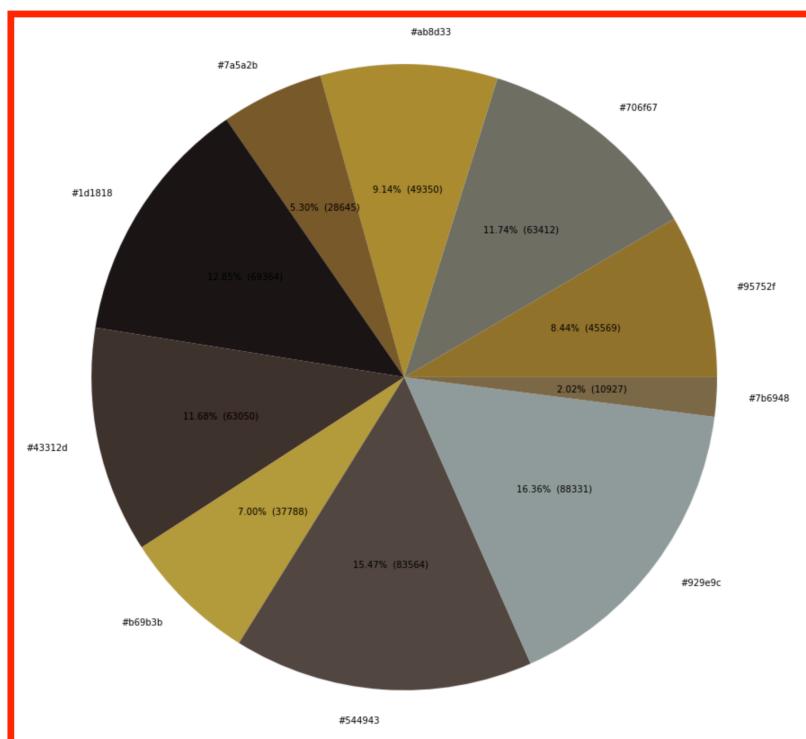
In [10]: from collections import Counter
from sklearn.cluster import KMeans
from matplotlib import colors
import matplotlib.pyplot as plt
import numpy as np
import cv2

In [11]: image = cv2.imread('image01.jpg')
image = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
plt.imshow(image)

Out[11]: <matplotlib.image.AxesImage at 0x7ffa66a3b070>
```

## 10. You can see image01.jpg

# 12. pie chart01.png



# 13.see a pie chart

# 14. Color Folder notebook file, image 01, and pie chart01

