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In [17]: from collections import Counter
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In [15]: from sklearn.cluster import KMeans
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In [4]: import cv2
import numpy as np
import matplotlib.pyplot as plt
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In [11]: def RGBtoHEX(rgb):
    hex="#{:02x}{:02x}{:02x}".format(int(rgb[0]),int(rgb[1]),int(rgb[2]))
    return hex
print(RGBtoHEX([255,0,0]))

#ff0000
```

```
In [32]: def PlotImageInformation(path,k=10):
    # Loading a image and convert it in to RGB format
    ImageBGR=cv2.imread(path)
    ImageRGB=cv2.cvtColor(ImageBGR,cv2.COLOR_BGR2RGB)

    #Resize the image to speed up the processing
    ResizeImageRGB=cv2.resize(ImageRGB,(64,64),interpolation=cv2.INTER_AREA)

    #reshape the image to be a list of pixels
    ImageList=ResizeImageRGB.reshape((ResizeImageRGB.shape[0]*ResizeImageRGB.shape[1],3))

    #Cluster pixels and assign Labels
    clt=KMeans(n_clusters=k)
    labels=clt.fit_predict(ImageList)

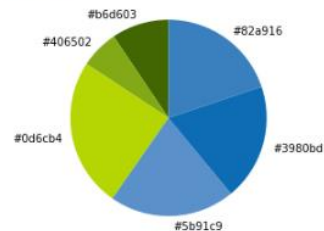
    #count the Labels to find most popular
    LablesCount=Counter(labels)
    TotalCount=sum(LablesCount.values())

    #subset out the most popular centroid
    CenterColors=list(clt.cluster_centers_)
    OrderedColors=[CenterColors[i]/255 for i in LablesCount.keys()]
    ColorLabels=[RGBtoHEX(OrderedColors[i]*255) for i in LablesCount.keys()]
```

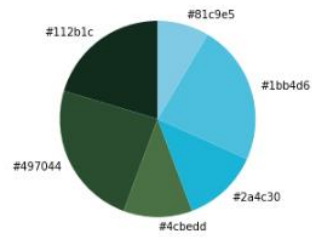
```
#plotting
plt.figure(figsize=(14, 8))
plt.subplot(221)
plt.imshow(ImageRGB)
plt.axis('off')

plt.subplot(222)
plt.pie(LablesCount.values(),labels=ColorLabels,colors=OrderedColors,startangle=90)
plt.axis('equal')
plt.show()
```

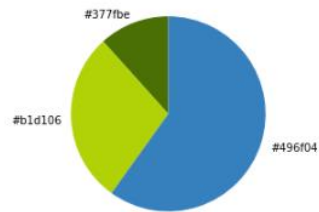
```
In [27]: PlotImageInformation("C:/Users/kavindu/Pictures/New folder (3)/p1.jpg")
```



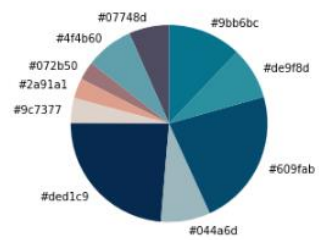
In [28]: `PlotImageInformation("C:/Users/kavindu/Pictures/New folder (3)/p2.jpg")`



In [31]: `PlotImageInformation("C:/Users/kavindu/Pictures/New folder (3)/p1.jpg")`



In [33]: `PlotImageInformation("C:/Users/kavindu/Pictures/New folder (3)/underwater-sea-ad.jpg")`



In []: