#importing csv files.

import csv

import matplotlib.pyplot as plt

import numpy as np

with open('2014 retail data.csv') as csvfile:

reader = csv.DictReader(csvfile)

Nat\_Num = {}

pro\_cat = {}

count = 0

for row in reader:

#message = "{} {}".format(row['Nation Number'], row['Product Category'])

count = count + 1

tmp\_Nat = Nat\_Num.get(row['Nation Number'])

tmp\_prod = pro\_cat.get(row['Product Category'])

if tmp\_Nat:

Nat\_Num[row['Nation Number']] = tmp\_Nat + 1

else:

Nat\_Num[row['Nation Number']] = 1

if tmp\_prod:

pro\_cat[row['Product Category']] = tmp\_prod + 1

else:

pro\_cat[row['Product Category']] = 1

print Nat\_Num

print pro\_cat

valuelist = [float(val)/count \* 100 for val in Nat\_Num.values()]

cus\_keys = Nat\_Num.keys()

percentage = {}

for x in xrange(len(cus\_keys)):

percentage[cus\_keys[x]] = valuelist[x]

print percentage

valuelist = [float(val)/count \* 100 for val in pro\_cat.values()]

pro\_keys = pro\_cat.keys()

percentage = {}

for x in xrange(len(pro\_keys)):

percentage[pro\_keys[x]] = valuelist[x]

print percentage

%matplotlib inline

import matplotlib.pyplot as plt

# The slices will be ordered and plotted counter-clockwise.

labels = 'C103', 'C104','C106', 'C107', 'C119', 'C120', 'Other'

sizes = [7, 26, 10,7,11,19,20]

colors = ['yellowgreen', 'gold', 'lightskyblue', 'lightcoral', 'green', 'yellow', 'blue']

explode = (0, 0.1, 0, 0,0,0,0) # only "explode" the 2nd slice (i.e. 'Hogs')

plt.pie(sizes, explode=explode, labels=labels, colors=colors,

autopct='%1.1f%%', shadow=True)

# Set aspect ratio to be equal so that pie is drawn as a circle.

plt.show()

import numpy as np

import matplotlib.pyplot as plt

n\_groups = 15

Nat\_Num= (21, 11, 11, 8.3, 5.6, 5.4, 4.5, 3.3, 3.1, 2.9,2.8,2,1.9,1.5,15.7)

index = np.arange(n\_groups)

bar\_width = 0.35

opacity = 0.4

rects1 = plt.bar(index, Nat\_Num, bar\_width,

color='B’)

plt.xlabel('Nation Number')

plt.ylabel('% of Toal Purchase Amount')

plt.title('Nation by Purchase Percentage')

plt.xticks(index + bar\_width, ('54', '30', '20', '13', '43','33', '58', '36', '59', '47','37', '55', '29', '60', 'Other'))

plt.legend()

plt.tight\_layout()

plt.show()