# -\*- coding: utf-8 -\*-

"""

Created on Wed Oct 21 14:50:07 2020

@author: danny

"""

import matplotlib.pyplot as plt

Benz= [3367,4120,5539,6020,6620]

BMW= [4000,3590,4423,4900,4590]

Lexus=[5200,4930,5350,6200,6930]

year= [2018,2019,2020,2021,2022]

#建立圖表大小

plt.figure(figsize=(15,10),dpi=100,linewidth=2)

#設定資料,顏色，label

plt.plot(year,Benz,color='r',label='Benz')

plt.plot(year,BMW,color='b',label='BMW')

plt.plot(year,Lexus,color='g',label='Lexus')

#標題

plt.title('銷售圖表',x=0.5,y=1.03)

#刻度字體大小

plt.xticks(fontsize=20)

plt.yticks(fontsize=20)

#標籤字體大小

plt.xlabel('Year',fontsize=30,labelpad=15)

plt.ylabel('銷售量',fontsize=30,labelpad=20)

#顯示出線條標記位置

plt.legend(loc='best',fontsize=20)

#繪圖

plt.show()

# -\*- coding: utf-8 -\*-

"""

Created on Wed Oct 21 15:23:03 2020

@author: danny

"""

import numpy as np

import matplotlib.pyplot as plt

x=np.arange(-6,6,0.1)

x\_label=np.arange(-6,7,1)

f1=3\*np.sin(x)

f2=np.sin(x)

f3=0.2\*np.sin(x)

#建立圖表大小

plt.figure(figsize=(15,10),dpi=100,linewidth=2)

#設定資料,顏色，label

plt.plot(x,f1,color='r',label='f1')

plt.plot(x,f2,color='b',label='f2')

plt.plot(x,f3,color='g',label='f3')

#標題

plt.title('銷售圖表',x=0.5,y=1.03)

#刻度字體大小

plt.xticks(fontsize=20)

plt.yticks(fontsize=20)

#標籤字體大小

plt.xlabel('',fontsize=30,labelpad=15)

plt.ylabel('銷售量',fontsize=30,labelpad=20)

#顯示出線條標記位置

plt.legend(loc='best',fontsize=20)

#繪圖

plt.show()

# -\*- coding: utf-8 -\*-

"""

Created on Wed Oct 21 15:41:01 2020

@author: danny

"""

import matplotlib.pyplot as plt

data1 = [1, 2, 3, 4, 5, 6, 7, 8]

data2 = [1, 4, 9, 16, 25, 36, 49, 64]

data3 = [1, 3, 6, 10, 15, 21, 28, 36]

data4 = [1, 7, 15, 26, 40, 57, 77, 100]

fig,axes=plt.subplots(2,2)

axes[0][0].plot(data1)

axes[0][1].plot(data2)

axes[1][0].plot(data3)

axes[1][1].plot(data4)

fig.show

# -\*- coding: utf-8 -\*-

"""

Created on Wed Oct 21 15:55:24 2020

@author: danny

"""

import random

import matplotlib.pyplot as plt

import numpy as np

import pandas as pd

nums=np.zeros(11)

for i in range(1000):

dice1=random.randint(1,6)

dice2=random.randint(1,6)

nums[dice1+dice2-2]+=1

plt.bar(range(2,13),

nums,

width=0.5,

bottom=None,

align='center',

color=['lightsteelblue',

'cornflowerblue',

'royalblue',

'midnightblue',

'navy',

'darkblue',

'mediumblue'])

plt.xticks(rotation='vertical')

plt.show()

# -\*- coding: utf-8 -\*-

"""

Created on Wed Oct 21 16:09:51 2020

@author: danny

"""

import matplotlib.pyplot as plt

import numpy as np

contry=['America','Australia','Japan','Europe','United Kingdom']

students=[10549,2105,1190,3346,980]

plt.figure(figsize=(6,9)) # 顯示圖框架大小

labels = contry # 製作圓餅圖的類別標籤

separeted = (0, 0, 0.3, 0, 0) # 依據類別數量，分別設定要突出的區塊

size = students # 製作圓餅圖的數值來源

plt.pie(size, # 數值

labels = labels, # 標籤

autopct = "%1.1f%%", # 將數值百分比並留到小數點一位

explode = separeted, # 設定分隔的區塊位置

pctdistance = 0.6, # 數字距圓心的距離

textprops = {"fontsize" : 12}, # 文字大小

shadow=True) # 設定陰影

plt.axis('equal') # 使圓餅圖比例相等

plt.legend(loc = "best") # 設定圖例及其位置為最佳