程式設計(II) 期末報告

學號：D1094181017　姓名：張育丞

壹、課堂範例

一、0507

```
def get_discount(kid, senior):
    discount = 0.1
    if not(kid or senior):
        discount = 0
    return discount
print(get_discount(True, False))
print(get_discount(False, True))
print(get_discount(False, False))
```

```
0.1
0.1
0
```

```
i=1 # 預設i以便迴圈
while i <= 3: # 顯示三種結果而加入此迴圈
    score = int(input('請輸入成績:'))
    if (score >= 60):
        grade = "及格"
    else:
        grade = "不及格"
    i+=1 # i=i+1
    print(grade)

```

```
請輸入成績:50
不及格
請輸入成績:60
及格
請輸入成績:70
及格
```

```
i=1 # 預設i以便迴圈
while i <= 5: # 顯示五種結果而加入此迴圈
    score = int(input('請輸入成績:'))
    if (score >= 90):
        grade = "A"
    elif (score >= 80):
        grade = "B"
    elif (score >= 70):
        grade = "C"
    elif (score >= 60):
        grade = "D"
    else:
        grade = "F"
    i+=1 # i=i+1
    print(grade)
```

```
請輸入成績:10
F
請輸入成績:60
D
請輸入成績:70
C
請輸入成績:80
B
請輸入成績:90
A
```

二、0514

```python
numlist = [1,2,3,4,5,6]
print(numlist[:])
print(numlist[1:3])
print(numlist[1:-2])
print(numlist[0:5:2])
print(numlist[5:0:-2])
```

```
[1, 2, 3, 4, 5, 6]
[2, 3]
[2, 3, 4]
[1, 3, 5]
[6, 4, 2]
```

```python
alpha = 'abcdefghijklmnopqrstuvwxyz'
print(alpha[3:15])
print(alpha[3:15:3])
print(alpha[3:15:-3])
print(alpha[3:15:-1])
print(alpha[::-3])
```

```
defghijklmno
dgjm


zwtqnkheb
```

```python
quizzes = [71,83,67,49,59]
print(quizzes[4])
quizzes[4] = 60
print(quizzes[4])
```

```
59
60
```

```python
quizzes = [71,83,67,49,59]
print(len(quizzes))
print(min(quizzes))
print(max(quizzes))
print(sum(quizzes)/len(quizzes))
print(sorted(quizzes))
print(quizzes)
```

```
5
49
83
65.8
[49, 59, 67, 71, 83]
[71, 83, 67, 49, 59]
```

```python
score = []
total = inscore = 0
while (inscore != -1):
    inscore = int(input("請輸入學生的成績: "))
    score.append(inscore)
score.remove(-1)
print('共有%d位學生'%(len(score)))
average = sum(score) / (len(score))
print('最高分: %d分, 最低分: %d 分, 平均成績: %5.2f分' % (max(score), min(score), average))
```

```
請輸入學生的成績: 71
請輸入學生的成績: 83
請輸入學生的成績: 67
請輸入學生的成績: 49
請輸入學生的成績: 59
請輸入學生的成績: -1
共有5位學生
最高分: 83分, 最低分: 49 分, 平均成績: 65.80分
```

三、0521

```
data=[4,15,20,13,6]
print('排序前')
print(data)
for loop in range(1,5):
    for i in range(0,(5-loop)):
        if data[i] > data[i+1]:
            data[i], data[i+1] = data[i+1], data[i]
    print('第%d次排序：' %loop)
    print(data)
```

```
排序前
[4, 15, 20, 13, 6]
第1次排序：
[4, 15, 13, 6, 20]
第2次排序：
[4, 13, 6, 15, 20]
第3次排序：
[4, 6, 13, 15, 20]
第4次排序：
[4, 6, 13, 15, 20]
```

```
no=[1,2,3,4]
score=[[87,64,88],[93,72,86],[80,88,89],[79,91,90]]
print('編號\t語言\t數理\t智力\t總分')
print('====================================')
for i in range(len(no)):
        print('%2d' %no[i], end = '\t')
        hSum = 0
        for j in range(len(score[i])):
            print('%4d' %score[i][j], end = '\t')
            hSum += score[i][j]
        print('%3d' %hSum)
print('%s' %'平均', end = '\t')

for j in range(3):
        vSum = 0
        for i in range(len(no)):
            vSum += score[i][j]
        print('%4.1f' %(vSum/len(no)), end='\t')

```

```
編號    語言    數理    智力    總分
====================================
1       87      64      88      239
2       93      72      86      251
3       80      88      89      257
4       79      91      90      260
平均    84.8    78.8    88.2
```

四、0528

```
def get_abs(x):
    if x < 0:
        return -x
    else:
        return x
help(get_abs)
```

```
Help on function get_abs in module __main__:

get_abs(x)
```

```
print(get_abs(-56))
print(get_abs(56))
```

```
56
56
```

```
def get_fahrenheit(x):
    return x*9/5+32
help(get_fahrenheit)
print(get_fahrenheit(20))
```

```
Help on function get_fahrenheit in module __main__:

get_fahrenheit(x)

68.0
```

```
def get_bmi(height, weight):
    bmi = weight / (height/100)**2
    return bmi
help(get_bmi)
print(get_bmi(172, 62))
```

```
Help on function get_bmi in module __main__:

get_bmi(height, weight)

20.9572742022715
```

```python
def is_prime(x):
    divisor_cnt, i=0, 1
    while i<= x:
        if x % i == 0:
            divisor_cnt += 1
        if divisor_cnt > 2:
            break
        i+=1
    return divisor_cnt == 2
help(is_prime)
print(is_prime(87))
print(is_prime(89))
```

```
Help on function is_prime in module __main__:

is_prime(x)

False
True
```

```python
def get_circle_area(r):
    pi = 3.14156
    return pi * r ** 2

help(get_circle_area)
print(get_circle_area(3))
```

```
Help on function get_circle_area in module __main__:

get_circle_area(r)

28.27404
```

```python
def get_circle_metrics(r, is_area=True):
    pi=3.14156
    if is_area:
        return pi*r**2
    else:
        return 2*pi*r
help(get_circle_metrics)
print(get_circle_metrics(3))
print(get_circle_metrics(3, False))
```

```
Help on function get_circle_metrics in module __main__:

get_circle_metrics(r, is_area=True)

28.27404
18.84936
```

六、0604

```
for i in range(1,5):
    for j in range(1,5):
        for k in range(1,5):
            if (i != j) and (i != k) and (j != k):
                print(i,j,k)
```

```
1 2 3
1 2 4
1 3 2
1 3 4
1 4 2
1 4 3
2 1 3
2 1 4
2 3 1
2 3 4
2 4 1
2 4 3
3 1 2
3 1 4
3 2 1
3 2 4
3 4 1
3 4 2
4 1 2
4 1 3
4 2 1
4 2 3
4 3 1
4 3 2
```

```
import math
for i in range(10000):
    x = int(math.sqrt(i + 100))
    y = int(math.sqrt(i + 268))
    if(x*x==i+100)and(y*y==i+268):
        print(i)
```

```
21
261
1581
```

```
x=input("input a num:")
y=input("input a num:")
z=input("input a num:")
temp=0
if x<y:
    temp=x
    x=yy=temp
if x<z:
    temp=x
    x=zipz=temp
if y<z:
    temp=y
    y=z
    z=temp
print(z,y,x3)
```

```
input a num:5
input a num:8
input a num:
 8 5
```

```
x=input("input a num")
y=input("input a num")
z=input("input a num")
y=[x,y,z]
y.sort()
print(y)
```

```
input a num5
input a num6
input a num7
['5', '6', '7']
```

```python
for i in range(1,3):
    for j in range(1,10):
        x=i*j
        print("%d*%d=%d"%(i,j,x))
```

```
1*1=1
1*2=2
1*3=3
1*4=4
1*5=5
1*6=6
1*7=7
1*8=8
1*9=9
2*1=2
2*2=4
2*3=6
2*4=8
2*5=10
2*6=12
2*7=14
2*8=16
2*9=18
```

```python
def fib(n):
    if n==1 or n==2:
        return 1
    return fib(n-1)+fib(n-1)
print(fib(10))
print(fib(9))
print(fib(8))
```

```
256
128
64
```

七、0618

```python
# -*- coding:UTF-8 -*-
from pptx import Presentation
prs = Presentation()
title_slide_layout = prs.slide_layouts[0]
slide = prs.slides.add_slide(title_slide_layout)
title = slide.shapes.title
title.text = "Hello Python PPT"
subtitle = slide.placeholders[1]
subtitle.text = "作者：Yu-cheng, Chang D1094181017 2021/06/18"
prs.save("張育丞_D1094181017.pptx")
```

八、0625

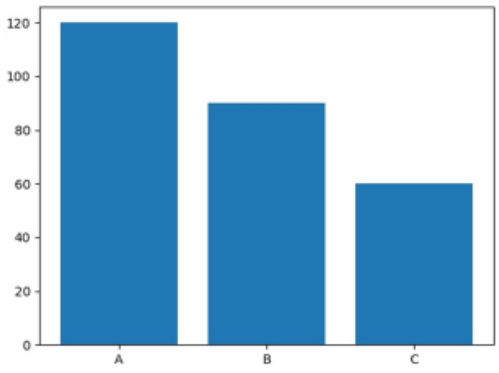
```python
# -*- coding: UTF-8 -*-
from pptx import Presentation
import matplotlib.pyplot as plt
from pptx.util import Inches

prs = Presentation()
title_slide_layout = prs.slide_layouts[0]
slide = prs.slides.add_slide(title_slide_layout)
title = slide.shapes.title
title.text = "Hello Python PPT"
subtitle = slide.placeholders[1]
subtitle.text = "作者：Yucheng, Chang 2021/06/25"

def add_slide(prs, layout, img):
    slide = prs.slides.add_slide(layout)
    shapes = slide.shapes

    title_shape = shapes.title
    title_shape.text = "長方圖示範"

    body_shape = shapes.placeholders[1]
    tf = body_shape.text_frame
    tf.text = "這是一個銷售狀況的示範"

    p = tf.add_paragraph()
    p.text = "分別有A、B、C三種品牌的銷售量"
    p.level = 1

    left = Inches(3)
    height = Inches(4.5)
    left = top = Inches(3)
    pic = slide.shapes.add_picture(img, left, top, height=height)

    return slide

x_labels =['A', 'B', 'C']
sales_num = [120, 90, 60]
plt.bar(x_labels, sales_num)
plt.savefig('graph.jpg')
img = 'graph.jpg'

title_slide_layout = prs.slide_layouts[1]
slide = add_slide(prs, title_slide_layout, img)

prs.save("python_ppt_v3.pptx")
```

Hello Python PPT

作者：Yucheng, Chang 2021/06/25

長方圖示範

- 這是一個銷售狀況的示範
  - 分別有A、B、C三種品牌的銷售量



```python
# -*- coding: UTF-8 -*-
'''
Version: Python3.x(and above)
Detetime: 2021/06/26
Editor: YC,CHANG
'''
from pptx import Presentation
import matplotlib.pyplot as plt
from pptx.util import Inches
import pandas as pd
import sys

'''
python 2.7
import importlib, sys
importlib.reload(sys)

'''

prs = Presentation()
title_slide_layout = prs.slide_layouts[0]
slide = prs.slides.add_slide(title_slide_layout)
title = slide.shapes.title
title.text = "餐廳銷售月週報"
subtitle = slide.placeholders[1]
subtitle.text = "作者：Yucheng Chang 2021/06/25"
pdCurryInfo = pd.read_excel("currySalesAndServiceInfo_Total.xlsx", sheet_name = "Sheet1")

def add_slide(prs, layout, title, img, text1, text2, text3):
    slide = prs.slides.add_slide(layout)
    shapes = slide.shapes

    title_shape = shapes.title
    title_shape.text = text1

    body_shape = shapes.placeholders[1]
    tf = body_shape.text_frame
    tf.text = text2

    p = tf.add_paragraph()
    p.text = text3
    p.level = 1

    left = Inches(3)
    height = Inches(4.5)
    left = top = Inches(3)
    pic = slide.shapes.add_picture(img, left, top, height = height)

    return slide

text1 = "大綱"
title_slide_layout = prs.slide_layouts[1]
slide = prs.slides.add_slide(title_slide_layout)
shapes = slide.shapes
title_shape = shapes.title
title_shape.text = text1
```

```
paragraph_strs = [
    '一週銷售長方圖',
    '一週主餐圓餅圖',
    '一週銷售量與訂單關係',
    '臨時動議'
]

body_shape = shapes.placeholders[1]
tf = body_shape.text_frame
tf.clear()

p = tf.paragraphs[0]
p.text = paragraph_strs[0]

for para_str in paragraph_strs[1:]:
    p = tf.add_paragraph()
    p.text = para_str

eachDay = pdCurryInfo.groupby('dayTime')
eachDay.size()

weekNameList = ['MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT', 'SUN']
order_num_list = list()
for i in range(len(weekNameList)):
    weekName = weekNameList[i]
    order_num = len(eachDay.get_group(weekName))
    order_num_list.append(order_num)

weekNameList = ['MON', 'TUE', 'WED', 'THU', 'FRI', 'SAT', 'SUN']
plt.bar(weekNameList, order_num_list)
plt.title('Week Sales')
plt.xlabel('Week Day')
plt.ylabel('Order Count')
plt.savefig('bar_graph.jpg')

img_bar = 'bar_graph.jpg'

text1 = '一週銷售長方圖'
text2 = '被選的銷量分佈'
text3 = '分別列出週一~週日每天的訂單數量'

title_slide_layout = prs.slide_layouts[1]
slide =add_slide(prs, title_slide_layout, title, img_bar, text1, text2, text3)
maindish = pdCurryInfo.groupby('content')
maindish.size()
content_type = ['牛肉咖哩', '豬排咖哩', '雞肉咖哩', '可樂餅咖哩']
content_total=['甘口牛肉咖哩','辛口牛肉咖哩','甘口豬排咖哩','辛口豬排咖哩','甘口雞肉咖哩','辛口雞肉咖哩','甘口可樂餅咖哩','辛口可樂餅咖哩']
maindish_count_list=list()
beef = 0
pork = 0
chicken = 0
croquette = 0
```

```
111 contentList = list()
112 maindish_list = list()
113 localDic  = {}
114 localDic['beef'] = 0
115 localDic['pork'] = 0
116 localDic['chicken'] = 0
117 localDic['croquette'] = 0
118 for i in range(len(content_total)):
119     content = content_total[i]
120     stuff = content
121 
122     print("%d,%s"%(i, stuff))
123     maindish_count = len(maindish.get_group(stuff))
124     maindish_count_list.append(maindish_count)
125     if '牛肉' in stuff:
126         localDic['beef'] += maindish_count
127     elif '豬排' in stuff:
128         localDic['pork'] += maindish_count
129     elif '雞肉' in stuff:
130         localDic['chicken'] += maindish_count
131     elif '可樂餅' in stuff:
132         localDic['croquette'] += maindish_count
133 
134 maindish_list.append(localDic['beef'])
135 maindish_list.append(localDic['pork'])
136 maindish_list.append(localDic['chicken'])
137 maindish_list.append(localDic['croquette'])
138 print('----- maindish_count ----')
139 print(maindish_list)
140 
141 labels = ['beef', 'pork', 'chicken', 'croquette']
142 plt.clf()
143 plt.pie(maindish_list,
144         labels = labels,
145         autopct = '%1.1f%%',
146         pctdistance = 0.5,
147         textprops ={"fontsize": 16},
148         shadow = True)
149 
150 plt.axis('equal')
151 plt.title('Pie chart of curry sales', {"fontsize": 18})
152 plt.savefig('pie_graph.jpg')
153 img_pie = "pie_graph.jpg"
154 
155 text1 = '一週主餐豆餅圖'
156 text2 = '被選的豆餅圖分佈'
157 text3 = '列出牛肉、豬排、雞肉、可樂餅咖哩的比率'
158 
159 title_slide_layout = prs.slide_layouts[1]
160 slide = add_slide(prs, title_slide_layout, title, img_pie, text1, text2, text3)
161 
162 weekSales = list()
163 for i in range(len(weekNameList)):
164     weekName = weekNameList[i]
165     weekSale = pdCurryInfo[pdCurryInfo['dayTime'] == weekName].price.sum()
166     weekSales.append(weekSale)
```

```python
plt.clf()
data1 = order_num_list
data2 = weekSales
t = weekNameList
fig, ax1 = plt.subplots()
ax1.bar(t, data1)
ax1.set_xlabel('Week Day')
ax1.set_ylabel('Order Count', color = 'b')
[tl.set_color('b') for tl in ax1.get_yticklabels()]

ax2 = ax1.twinx()
ax2.plot(t, data2, 'r-')
[tl.set_color('r') for tl in ax2.get_yticklabels()]

plt.title('Sales and Orders')
plt.savefig('twinx_graph.jpg')
img_twinx = "twinx_graph.jpg"

text1 = '一週銷售量與訂單關係'
text2 = '藍色為訂單數、紅色為銷售量'
text3 = '可以看出訂單數與銷售量有正比關係'

title_slide_layout = prs.slide_layouts[1]
slide = add_slide(prs, title_slide_layout, title,  img_twinx, text1, text2, text3)

text1 = '臨時數據'
title_slide_layout = prs.slide_layouts[1]
slide = prs.slides.add_slide(title_slide_layout)
shapes = slide.shapes
title_shape = shapes.title
title_shape.text = text1

body_shape = shapes.placeholders[1]
tf = body_shape.text_frame
tf.clear()

p = tf.paragraphs[0]
p.text = "討論"
prs.save("python_ppt_v4.pptx")
```

餐廳銷售量週報

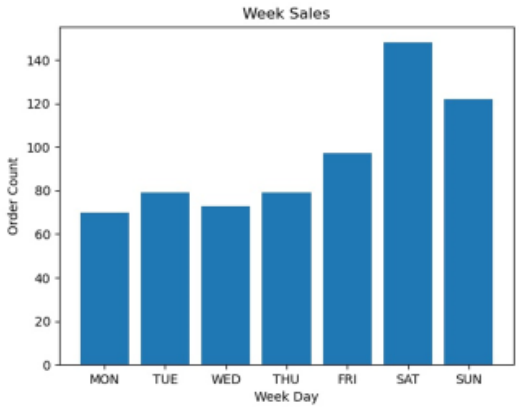
作者：Yucheng Chang 2021/06/25

大綱

- 一週銷售長方圖
- 一週主餐圓餅圖
- 一週銷售量與訂單關係
- 臨時動議

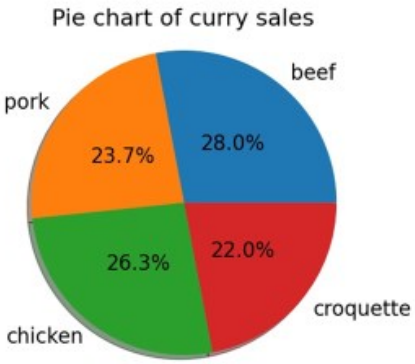
一週銷售長方圖

- 該週的銷量分佈
  - 分別列出週一~週日每天的訂單數量



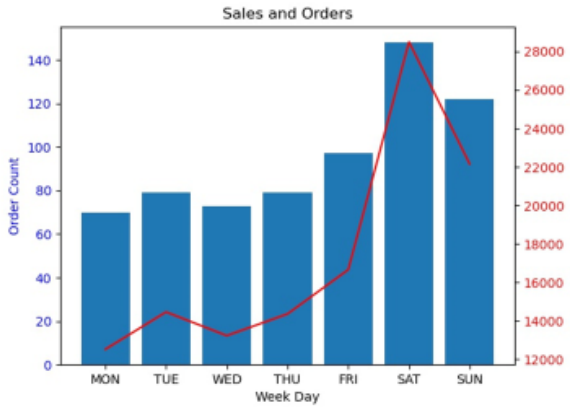
一週主餐圓餅圖

- 該週的圓餅圖分佈
  - 列出牛肉、豬排、雞肉、可樂餅咖哩的比率



一週銷售量與訂單關係

- 藍色為訂單數、紅色為銷售量
  - 可以看出訂單數與銷售量有正比關係



臨時動議

- 討論

貳、課堂練習

一、0507

```python
while True:
    AQI = int(input('請輸入半形.整數的空氣品質指標(區間為0~500), 結束為非0~500的任意值'))
    if AQI <= 50:
        print("良好")
    elif AQI <= 100:
        print("普通")
    elif AQI <= 150:
        print("對敏感族群不健康")
    elif AQI <= 200:
        print("對所有族群不健康")
    elif AQI <= 300:
        print("非常不健康")
    elif AQI <= 500:
        print("危害")
    elif ((AQI < 0)|(AQI > 300)):
        print("錯誤, 請再試一次")
    else:
        print("結束程式")
        break
```

```
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值50
良好
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值100
普通
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值150
對敏感族群不健康
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值200
對所有族群不健康
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值300
非常不健康
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值500
危害
請輸入半形.整數的空氣品質指標(區間為0~500)，結束為非0~500的任意值10000
錯誤，請再試一次
```

```python
ontime = input("車子是否於晚上11點前歸還？[y/n]").lower()
days_rented = int(input('車子租借幾天？'))
day_rented = input('車子禮拜幾被租借[1~7]')
cost_per_dry = 100
if ontime == 'n':
    days_rented+=1
if day_rented == '7':
    total = days_rented * cost_per_dry * 0.9
elif day_rented == '4':
    total = days_rented * cost_per_dry * 0.8
else:
    total = days_rented * cost_per_dry
print("費用為:", total, "元")
```

```
車子是否於晚上11點前歸還？[y/n]y
車子租借幾天？7
車子禮拜幾被租借[1~7]4
費用為: 560.0 元
```

```python
def ticket_fee(age, school):
    fee=0
    if age>=5 and school==True:
        fee=60
    if age>=5 and school==False:
        if age <=17:
            fee=120
        else:
            fee=180
    return fee
print(ticket_fee(18, False))
```

```
180
```

```python
from datetime import datetime
weekly = [1, 2, 3, 4, 5, 6, 7]
now = datetime.now()
timezone = '+8'
now_str = str(now.hour + int(timezone)) + ":" + str(now.minute) + ":" + str(now.second)
start = int(input("星期幾租借[1~7]: "))
end = int(input("星期幾歸還[1~7]: "))
sub = end - start
if sub < 1:
    TotalWeek = sub * -1 + 1
else:
    TotalWeek = sub + 1
price = TotalWeek * 100
if start == 4:
    price = price * 0.2
elif start == 7:
    price = price * 0.1
if TotalWeek % 3 == 1 or TotalWeek % 3 == 0:
    price = price * 0.9
if endHour >= 23 and now.hour >= 23:
    price += 100
print("現在時間", now_str, "總金額: ", int(price))

```

```
星期幾租借[1~7]: 4
星期幾歸還[1~7]: 7
現在時間 23:55:51 總金額: 72
```

二、0514

```python
import operator

Students = ['A', 'B', 'C', 'D', 'E']
day = 1
days = []
monthDay = 14

while day <= monthDay:

        print("缺席登入系統")
        print("今日日期5月" + str(day) + "日")
        StudentsCount = len(Students)
        SC = 0
        AllAttend = []
        while StudentsCount > 0:

                name = Students[SC]
                attend = bool(int(input("姓名:" + name + " 是否出席:")))
                AllAttend.append(attend)
                if attend:
                        attend = "出席"
                else:
                        attend = "沒出席"

                SC += 1
                StudentsCount -= 1
        days.append(AllAttend)
        day += 1
```

```
countAll = 0
all = len(days) * len(Students)

for k, v in enumerate(days):
    for idx, name in enumerate(v):
        if name is True:
            countAll += 1

percent = (countAll / all) * 100
print("\n總出席率：")
print(percent)
print("\n個別出席率：")
single = []
for k, v in enumerate(days):
    c = 0
    for i, name in enumerate(v):
        if k == 0:
            single.append(0)
        if name is True:
            single[i] += 1
for k, v in enumerate(single):
    print(Students[k] + "：" + str(v / len(days) * 100))

attendDays = []
for k, v in enumerate(days):
    tmp = 0
    for idx, name in enumerate(v):
        if name is True:
            tmp += 1
    attendDays.append(tmp / len(v) * 100)
print("\n出席率最高的日子：5/" + str(1 + attendDays.index(max(attendDays))))
print("\n出席率最低的日子：5/" + str(1 + attendDays.index(min(attendDays))))
```

```
缺席登入系統
今日日期5月1日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月2日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月3日
姓名:A 是否出席:0
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月4日
姓名:A 是否出席:1
姓名:B 是否出席:0
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月5日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:0
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月6日
姓名:A 是否出席:0
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
```

缺席登入系統
今日日期5月6日
姓名:A 是否出席:0
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月7日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月8日
姓名:A 是否出席:1
姓名:B 是否出席:0
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月9日
姓名:A 是否出席:0
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月10日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:0
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月11日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1

缺席登入系統
今日日期5月12日
姓名:A 是否出席:0
姓名:B 是否出席:0
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月13日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1
缺席登入系統
今日日期5月14日
姓名:A 是否出席:1
姓名:B 是否出席:1
姓名:C 是否出席:1
姓名:D 是否出席:1
姓名:E 是否出席:1

總出席率:
87.14285714285714

個別出席率:
A: 71.42857142857143
B: 78.57142857142857
C: 85.71428571428571
D: 100.0
E: 100.0

出席率最高的日子: 5/1

出席率最低的日子: 5/12

三、0521

```
arr1 = [11,22]
arr2 = [33,44]
arr3 = arr1 + arr2
arr4 = arr3 * 2
print(arr4)
```

```
[11, 22, 33, 44, 11, 22, 33, 44]
```

```
arr = [y for y in range(10)]
sum = 0
for i in range(1,9):
    sum =sum =arr[i-1]+arr[i]+arr[i+1]
print(sum)
```

```
24
```

```
arr = [0 for x in range(10)]
for i in range(10):
    arr[(i+2)%10] = eval(input())
print(arr)

```

```
0
1
2
3
4
5
6
7
8
9
[8, 9, 0, 1, 2, 3, 4, 5, 6, 7]
```

四、0528

```
Kilograms = int(input("Please key Kilograms:"))
GBP = Kilograms * 2.2
print(str(Kilograms) + "公斤" + " " + str(GBP) + "英鎊")
```

```
Please key Kilograms:80
80公斤 176.0英鎊
```

```
kilowatt = 2.5
endMonth = 4
month = 0
Allkw = {}
for i in range(1, 4):
        kw = float(input(str(i) + "月用電:"))
        kw = kw * kilowatt
        mm = str(i) + "月"
        Allkw[mm] = kw
        i += 1

Allkw = sorted(Allkw.items(), key=lambda x: x[1], reverse=True)
big = int(len(Allkw))
total = 0
print(Allkw)

print("最少電費:" + Allkw[0][0])
print("最多電費:" + Allkw[big - 1][0])

while big > 0:
        total += Allkw[big - 1][1]

        big -= 1
print("電費總數:" + str(total))
monthh = ""
bb = True
for key, value in Allkw:
        # print(key)
        if bb is False:
                monthh +=">" + key
        else:
                monthh += key

        bb = False

        # print(value)
print(monthh)

```

```
1月用電:120
2月用電:30
3月用電:110
[('1月', 300.0), ('3月', 275.0), ('2月', 75.0)]
最少電費:1月
最多電費:2月
電費總數:650.0
1月>3月>2月
```

五、0604

```
import math
I = int(input('當月利潤(單位：萬):'))
if I <= 10: SC = I * 0.01
if I > 10 and I <=20: SC = I * 0.075
if I > 20 and I <=40: SC = I * 0.05
if I > 40 and I <=60: SC = I * 0.03
if I > 60 and I <=100: SC = I * 0.015
if I > 100: SC = I * 0.01
print('可提成', format((SC * 10000), '.0f'))

```

```
當月利潤(單位：萬):10
可提成 1000
```

```
from math import sqrt


def F(n):
    return ((1 + sqrt(5)) ** n - (1 - sqrt(5)) ** n) / (2 ** n * sqrt(5))


def Fibonacci(startNumber, count):
    n = 0
    cur = F(n)
    while n <= count:
        if startNumber <= cur:
            print(int(cur))
        n += 1
        cur = F(n)


i = int(input("兔子要生幾個月："))
Fibonacci(1, i)

```

```
兔子要生幾個月：8
1
1
2
3
5
8
13
21
```

肆、心得

這學期的程式設計(二)即將於第 18 週畫下句點，對於整學期的課程感覺上還不錯，有充分的挑戰題可以嘗試，藉由自己跟時間的賽跑、自我約束以及幫他人解決問題，培養寫程式生涯中不可或缺的除錯與應變能力。

整組一同工作是大學的生態，工作上更是如此，能夠單獨思考的時間也不多，藉由一週中的三小時，單方面思考也感覺還行，至少可以讓我除了自己每天的自我學習多點不一樣的彈性。

接下來自己有打算往人工智慧的部分進行進修不管 OpenCV、Temsorflow 或是 Keras 的部分，希望這學期課程可以充分讓我更有動力，也更加有能力去駕馭，嵌入式系統那塊雖已接觸 4 年，不過透過上課還是可以看出自己的不足，藉由課程機會，也該嘗試優化些程式了，目前是那麼覺得啦！所以我就努力吧！！哈哈