

Final Project
Program Design (II)

teacher:程芙茵

team:福音戰士

member:411410009林薇琪 411410041許庭翊 411410049陳芊琦 411410072楊家昕

Basic Part:

(1) Data Type and Data Structure

在儲存訂單的structure裡, 有使用三種不同的basic data type: int, double, char

其中char meal[]; 是string type, 並且運用Flexible Array Members, 節省空間

訂單的儲存是運用doubly linked list。

```
typedef struct list_t{
    int number;
    double price;
    struct list_t *prior, *next;
    char meal[];
} list_t;
```

(2) Operations

1. add: 在front.exe裡可使用order操作來新增訂單。
2. delete: 在front.exe裡可使用delete操作來刪除特定編號的訂單。
3. traverse: 在front.exe裡可使用traverse操作來列出recording.txt裡所有的訂單。輸出格式順序為：訂單編號、餐點名稱、訂單價格。兩訂單之間以虛線分隔。
4. search: 在front.exe裡可使用search操作來尋找特定編號的訂單明細, 並顯示到螢幕上。
5. sort: 在front.exe裡可使用sort操作將所有訂單以編號或價格做排序。
6. file io: 對recording.txt、number.txt、order.txt做讀取與寫入。

點餐系統使用說明：

零、使用cmd啟動front.exe

```
PS C:\Users\user\Documents\Github\Final-Project> start front.exe
```

一、若是之前的recording.txt和number.txt沒清空, 則會詢問是否要清空或結束程式, 若不清空則接續原有的訂單下去。

recording.txt儲存訂單明細, number.txt則儲存上次訂單的編號。

```
the number in number.txt is not 0.
scan command below to continue.
0: just continue.
1: initialize the number.txt
2: exit the program.
command: |
```

```
the recording.txt is not empty.
scan command below to continue.
0: just continue.
1: initialize the recording.txt
2: exit the program.
command:
```

二、輸入要進行的操作。

```
input the command:
```

總共有七種操作可以選擇：

(1) help

會列出這7種操作的說明。

```
input the command: help

help: list all the command that can be used.
order: into ordering-food system
delete: input the number of order you want to delete.
traverse: print all orders.
search: input the number of order, print the order detail.
sort: sort the order of order with number, price, or waiting time.
exit: exit the program.
```

(2) order

進入點餐系統，接續輸入餐點代碼。

```
input the command: order
input the meal code:
```

假設顧客想要點代號為a、b、c的餐點，則輸入abc。

輸入結束後會顯示訂單詳細資訊。從上到下分別是訂單編號、餐點代碼、餐點名稱與訂餐價格

```
input the command: order
input the meal code: abc
-----
num: 1
meal code: abc
meal name: 番茄炒蛋 牛肉麵 青椒炒蛋
price: 18.90
-----
input the meal code:
```

其中，除了餐點代碼外的詳細資訊會儲存到recording.txt裡。

若輸入非小寫英文單字或者0，則會顯示輸入錯誤，並要求重新輸入。

```
input the meal code: ?
wrong: meal codes only can contain alphanum from a to z.
input the meal code:
```

輸入0即可結束order功能，回到command輸入。

```
input the command: order
input the meal code: 0
stop input
input the command:
```

(3) delete

輸入要刪除的訂單編號，若成功刪除則跳出delete。

```
input the command: delete
delete the number of order (exit 0): 1
detele number 1 order
input the command:
```

輸入錯誤編號會要求重新輸入，輸入0可跳出delete功能。

```
input the command: delete
delete the number of order (exit 0): a

wrong, it is not a digit.

delete the number of order (exit 0):
```

(4) traverse

以特定的格式顯示所有的訂單明細，格式為：訂單編號、餐點代碼、餐點名稱、訂單價格。

```
input the command: traverse
-----
num: 1
meal code: ads
meal name: 番茄炒蛋 牛肉炒蛋 滷肉飯
price: 12.20
-----
```

(5) search

輸入特定訂單的編號後，會於螢幕顯示訂單的詳細資訊，並結束search。

```
input the command: search
the number of order (exit 0):
```

若輸入錯誤，則會跳出警告，並要求重新輸入。

```
input the command: search
the number of order (exit 0): ?

wrong, it is not a digit.

the number of order (exit 0):
```

若輸入的訂單編號不存在，則會跳出警告，並要求重新輸入。

```
input the command: search
the number of order (exit 0): 2
not found 2 order.
please try again.
the number of order (exit 0):
```

若想結束search，輸入0即可終止。

```
input the command: search
the number of order (exit 0): 0
end search.
input the command:
```

(6) sort

輸入想要依照哪種資料排序訂單。

```
input the command: sort
sort by what (number, price, exit):
```

若想依照訂單編號排序，輸入number。

```
input the command: sort
sort by what (number, price, exit): number
input the command:
```

運用traverse操作，可以查看訂單的排序情況。

```
input the command: traverse
-----
num: 1
meal code: ads
meal name: 番茄炒蛋 牛肉炒蛋 滷肉飯
price: 12.20
-----
num: 2
meal code: s
meal name: 滷肉飯
price: 3.30
-----
input the command:
```

若想依照訂單價格排序，輸入price。

```
input the command: sort
sort by what (number, price, exit): price
input the command:
```

運用traverse操作，可以查看訂單的排序情況。

```
input the command: traverse
-----
num: 2
meal code: s
meal name: 滷肉飯
price: 3.30
-----
num: 1
meal code: ads
meal name: 番茄炒蛋 牛肉炒蛋 滷肉飯
price: 12.20
-----
input the command:
```

若想終止sort，輸入exit。

```
input the command: sort
sort by what (number, price, exit): exit
input the command:
```

(7) exit

可以終止front.exe。

```
input the command: exit
```

並自動開啟做菜與送餐遊戲type_and_maze.exe

```
Play in HARD MODE ?
Y/N:
```