

You are going to implement a ticket system. There are totally three kinds of ticket which are Train, Concert, and Hotel ticket. User can use this system to book ticket, cancel booking, search booking, and print the booking that saved in their personal device. Booking ID is generate by a counter and increased by 1 every time. The attribute for each ticket is as follows.

```
class Ticket {  
public:  
    int booking_ID;  
    int type;  
    int price;  
    Date date; };
```

```
class Concert_Ticket : public Ticket {  
public:  
    int zone;  
    int seat;  
    Time start_time; };
```

```
class Train_Ticket : public Ticket {  
public:  
    int seat;  
    int cart;  
    Time departure_time;  
    Time arrival_time;  
    string origin;  
    string destination;; };
```

```
class Hotel_Ticket : public Ticket {  
public:  
    bool breakfast;  
    bool dinner;  
    int room_number; };
```

When user enter this system, show the message “Welcome to the booking system.” and ask user to choose the option. (5%)

```
Welcome to the booking system.  
Choose Option:  
0 = Book Ticket, 1 = Cancel Booking, 2 = Search Booking, 3 = Print Booking, quit  
= exit
```

1. Booking ticket: (15%)

a. Select ticket type

```
Please select the ticket type.  
0 = Train Ticket, 1 = Concert Ticket, 2 = Hotel Ticket
```

b. Enter the ticket's information

```
You are booking Train Ticket now.  
Enter the cart number: 1  
Enter the seat number: 2  
Enter the departure time: 11:11  
Enter the arrival time: 12:00  
Enter the start station: aaa  
Enter the destination: ccc  
Enter the date<yy/mm/dd>: 16/05/26
```

- c. Confirm the booking and get booking ID. (increased by a counter)

```
Confirm for booking? Yes
Your Booking ID is 0
Train Ticket Book Success.
```

2. Canceling ticket: (10%)

- a. Enter the booking ID

```
Please enter the booking ID:
0
```

- b. Remove the booking if it exists, otherwise show warning message

```
0
Cancelling success
```

```
1
Can't find this booking record
```

3. Searching ticket: (15%)

- a. Enter the booking ID

```
Please enter the booking ID:
0
```

- b. Show warning message if it does not exist

```
1
Can't find this booking record
```

- c. Show the information of this ticket if it exists.

```
0
Ticket type = 0
Booking ID = 0
Price = 500
Date = 16/5/26
Seat Number = 1
Cart Number = 0
Departure time = 11:11
Arrival time = 12:0
Origin = aaa
Destination = ccc
Save this ticket's information to your device?
```

- d. Ask user to save this ticket to the device or not.

```
Save this ticket's information to your device? Yes
Copy Success
```

4. Printing ticket: (10%)

- a. Select ticket type

```
Please select the ticket type that saved in your device.
0 = Train Ticket, 1 = Concert Ticket, 2 = Hotel Ticket
2
```

- b. Show warning message if it does not exist in local device

(c_ticket, t_ticket, h_ticket)

```
2
Your device do not have this ticket's information
```

- c. Print the message if it exists in local devices

```
0
Ticket type = 0
Booking ID = 0
Price = 500
Date = 16/5/26
Seat Number = 1
Cart Number = 0
Departure time = 11:11
Arrival time = 12:0
Origin = aaa
Destination = ccc
```

5. Quit: (5%)

If user enters quit, then quit the system and show the message “Goodbye and have a nice day.”.

```
quit
Goodbye and have a nice day.
請按任意鍵繼續 . . .
```