Computer Programming I — Final Exam

2023/1/6

Design a Simplified Cashbox KTV Reservation System

**Functions:**

1 Login: Input an ID number and password. If the ID number does not exist in the file Members.dat or the password is wrong, then login fails.

1.1 Make Reservation: Insert a new record into the binary file ReservationInfo.dat.

1.2 Reservation Enquiry/Canceling: Display all records in the file ReservationInfo.dat for the current user, then let the user choose one of them to delete.

2 Registration: Insert a new record into the binary file Members.dat. Input an ID number, name and password. If the ID number already exists in the file Members.dat, then registration fails.

**Requirements:** Global variables, except brancheNames, are not allowed.

The file record format of the file Members.dat is

char IDNumber[ 12 ]; // account number

char password[ 24 ]; // password

char name[ 8 ]; // name

The file record format of the file ReservationInfo.dat is

char IDNumber[ 12 ]; // account number

int branchCode; // branch code

Date date; // reservation date

int numCustomers; // number of customers

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| branchCode | Branch names |
| 1 | Taipei Dunhua South |
| 2 | Taipei Zhongxiao |
| 3 | Taipei Songjiang |
| 4 | Taipei Nanjing |
| 5 | Taipei Linsen |
| 6 | Taipei Zhonghua New |
| 7 | Banqiao Guanqian |
| 8 | Yonghe Lehua |
| 9 | Taoyuan Zhonghua |
| 10 | Taoyuan Nankan |
| 11 | Zhongli Zhongyang |
| 12 | Hsinchu Beida |
| 13 | Taichung Ziyou |
| 14 | Chiayi Ren'ai |
| 15 | Tainan Ximen |
| 16 | Kaohsiung Zhonghua New |
| 17 | Kaohsiung Jianxing |
| 18 | Pingtung Kending |

**Grading rule**

Output correct:

15% loadMemberDetails + loadReservations

15% saveMemberDetails + saveReservations

10% lessEqual

5% valid

15% reservation

20% compAvailableDates

15% queryDelete

5% existingID

Output incorrect:

14% loadMemberDetails + loadReservations

14% saveMemberDetails + saveReservations

9% lessEqual

4% valid

14% reservation

18% compAvailableDates

14% queryDelete

4% existingID

The screen dialog #1:

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| Welcome to the Cashbox Party World!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 2  Input your ID Number: 999  Input your Name: 999  Choose a password: 999  Registration Completed!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 2  Input your ID Number: 999  You are already a member!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 1  Please enter your ID number: 999  Enter your password: 888  Invalid account number or password. Please try again.  Please enter your ID number: 888  Enter your password: 999  Invalid account number or password. Please try again.  Please enter your ID number: 999  Enter your password: 999  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  No reservations!  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 19  Enter your choice (0 to end): 9  The current hour is 2022/12/31:14  Available days:  1. 2022/12/31  2. 2023/1/1  3. 2023/1/2  4. 2023/1/3  5. 2023/1/4  6. 2023/1/5  7. 2023/1/6  Enter your choice (0 to end): 8  Enter your choice (0 to end): 1  Enter hour (15~23): 14  Enter hour (15~23): 24  Enter hour (15~23): 15  Enter the number of customers (1~30, 0 to end): 31  Enter the number of customers (1~30, 0 to end): 5  Branch Date Hour No of Customers  Taoyuan Zhonghua 2022-12-31 15 5  Reservation Completed!  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  Branch Date Hour No of Customers  1. Taoyuan Zhonghua 2022-12-31 15 5  Choose a reservation to cancel (0: keep all reservations): 2  Choose a reservation to cancel (0: keep all reservations): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 3  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 3  Thank you! Goodbye! |

The screen dialog #2:

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| Welcome to the Cashbox Party World!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 1  Please enter your ID number: 999  Enter your password: 999  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 1  The current hour is 2022/12/31:14  Available days:  1. 2022/12/31  2. 2023/1/1  3. 2023/1/2  4. 2023/1/3  5. 2023/1/4  6. 2023/1/5  7. 2023/1/6  Enter your choice (0 to end): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 1  The current hour is 2022/12/31:14  Available days:  1. 2022/12/31  2. 2023/1/1  3. 2023/1/2  4. 2023/1/3  5. 2023/1/4  6. 2023/1/5  7. 2023/1/6  Enter your choice (0 to end): 1  Enter hour (15~23): 15  Enter the number of customers (1~30, 0 to end): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 1  The current hour is 2022/12/31:15  Available days:  1. 2022/12/31  2. 2023/1/1  3. 2023/1/2  4. 2023/1/3  5. 2023/1/4  6. 2023/1/5  7. 2023/1/6  Enter your choice (0 to end): 1  Enter hour (16~23): 16  Enter the number of customers (1~30, 0 to end): 5  Branch Date Hour No of Customers  Taipei Dunhua South 2022-12-31 16 5  Reservation Completed!  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  Branch Date Hour No of Customers  1. Taoyuan Zhonghua 2022-12-31 15 5  2. Taipei Dunhua South 2022-12-31 16 5  Choose a reservation to cancel (0: keep all reservations): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 3  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 3  Thank you! Goodbye! |

The screen dialog #3:

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| Welcome to the Cashbox Party World!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 1  Please enter your ID number: 999  Enter your password: 999  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 11  The current hour is 2022/12/31:15  Available days:  1. 2022/12/31  2. 2023/1/1  3. 2023/1/2  4. 2023/1/3  5. 2023/1/4  6. 2023/1/5  7. 2023/1/6  Enter your choice (0 to end): 5  Enter hour (0~23): 11  Enter the number of customers (1~30, 0 to end): 3  Branch Date Hour No of Customers  Zhongli Zhongyang 2023-01-04 11 3  Reservation Completed!  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  Branch Date Hour No of Customers  1. Taoyuan Zhonghua 2022-12-31 15 5  2. Taipei Dunhua South 2022-12-31 16 5  3. Zhongli Zhongyang 2023-01-04 11 3  Choose a reservation to cancel (0: keep all reservations): 4  Choose a reservation to cancel (0: keep all reservations): 2  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  Branch Date Hour No of Customers  1. Taoyuan Zhonghua 2022-12-31 15 5  2. Zhongli Zhongyang 2023-01-04 11 3  Choose a reservation to cancel (0: keep all reservations): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 3  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 3  Thank you! Goodbye! |

The screen dialog #4:

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| Welcome to the Cashbox Party World!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 1  Please enter your ID number: 999  Enter your password: 999  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 18  The current hour is 2022/12/31:23  Available days:  1. 2023/1/1  2. 2023/1/2  3. 2023/1/3  4. 2023/1/4  5. 2023/1/5  6. 2023/1/6  7. 2023/1/7  Enter your choice (0 to end): 1  Enter hour (0~23): 12  Enter the number of customers (1~30, 0 to end): 7  Branch Date Hour No of Customers  Pingtung Kending 2023-01-01 12 7  Reservation Completed!  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  Branch Date Hour No of Customers  1. Taoyuan Zhonghua 2022-12-31 15 5  2. Zhongli Zhongyang 2023-01-04 11 3  3. Pingtung Kending 2023-01-01 12 7  Choose a reservation to cancel (0: keep all reservations): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 3  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 3  Thank you! Goodbye! |

The screen dialog #5:

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| Welcome to the Cashbox Party World!  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 1  Please enter your ID number: 999  Enter your password: 999  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 1  1. Taipei Dunhua South  2. Taipei Zhongxiao  3. Taipei Songjiang  4. Taipei Nanjing  5. Taipei Linsen  6. Taipei Zhonghua New  7. Banqiao Guanqian  8. Yonghe Lehua  9. Taoyuan Zhonghua  10. Taoyuan Nankan  11. Zhongli Zhongyang  12. Hsinchu Beida  13. Taichung Ziyou  14. Chiayi Ren'ai  15. Tainan Ximen  16. Kaohsiung Zhonghua New  17. Kaohsiung Jianxing  18. Pingtung Kending  Enter your choice (0 to end): 1  The current hour is 2023/1/1:8  Available days:  1. 2023/1/1  2. 2023/1/2  3. 2023/1/3  4. 2023/1/4  5. 2023/1/5  6. 2023/1/6  7. 2023/1/7  Enter your choice (0 to end): 1  Enter hour (9~23): 9  Enter the number of customers (1~30, 0 to end): 2  Branch Date Hour No of Customers  Taipei Dunhua South 2023-01-01 9 2  Reservation Completed!  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 2  Branch Date Hour No of Customers  1. Zhongli Zhongyang 2023-01-04 11 3  2. Pingtung Kending 2023-01-01 12 7  3. Taipei Dunhua South 2023-01-01 9 2  Choose a reservation to cancel (0: keep all reservations): 0  1 - Make Reservation  2 - Reservation Enquiry/Canceling  3 - End  Enter your choice (1~3): 3  1 - Login  2 - Registration  3 - End  Enter your choice (1~3): 3  Thank you! Goodbye!  請按任意鍵繼續 . . . |