```cpp
#include <iostream>
#include <string>
#include <iomanip>

using namespace std;

void wrongOutput();
void seatArrange(string seat[], int pax, int& totalPax);
double calculateSingleDiningPrice(double pricePerSet, double setQty);

void wrongOutput() {
    cout << "Wrong Input" << endl;
}

void seatArrange(string seat[], int pax, int& totalPax) {
    cout << "Your assigned seats: ";
    for (int i = totalPax; i < totalPax + pax; i++) {
        if (i < 150) {
            cout << seat[i];
            if (i < totalPax + pax - 1) {
                cout << ", ";
            }
        } else {
            cout << " (More seats needed) ";
            break;
        }
    }
    totalPax += pax;
}

double calculateSingleDiningPrice(double pricePerSet, double setQty) {
```

```cpp
        return pricePerSet * setQty;
}

int main() {
    char loopBook = 'y';
    char diningAns;
    char otherTime;

    string destination;
    string date;
    string time;
    string departTime;
    string arriveTime;
    string gate;
    string setCode;
    string name;
    string ic;
    string email;
    string flightTime;
    string code;
    string start2end;
    string flightNo;

    int pax;
    int totalPax = 0;

    double flightPrice = 0.0;
    double setQty = 0.0;
    double diningPrice = 0.0;
    double totalDining = 0.0;
```

```cpp
double discPrice = 0.0;

double insPerPax = 0.0;

double ticketPrice = 0.0;

double insPrice = 0.0;

double total = 0.0;

double afterDisc = 0.0;

double tax = 0.0;

double netTotal = 0.0;


string seat[150] = {

    "1A", "1B", "1C", "1D", "1E", "1F", "2A", "2B", "2C", "2D", "2E", "2F",

    "3A", "3B", "3C", "3D", "3E", "3F", "4A", "4B", "4C", "4D", "4E", "4F",

    "5A", "5B", "5C", "5D", "5E", "5F", "6A", "6B", "6C", "6D", "6E", "6F",

    "7A", "7B", "7C", "7D", "7E", "7F", "8A", "8B", "8C", "8D", "8E", "8F",

    "9A", "9B", "9C", "9D", "9E", "9F", "10A", "10B", "10C", "10D", "10E", "10F",

    "11A", "11B", "11C", "11D", "11E", "11F", "12A", "12B", "12C", "12D", "12E", "12F",

    "13A", "13B", "13C", "13D", "13E", "13F", "14A", "14B", "14C", "14D", "14E", "14F",

    "15A", "15B", "15C", "15D", "15E", "15F", "16A", "16B", "16C", "16D", "16E", "16F",

    "17A", "17B", "17C", "17D", "17E", "17F", "18A", "18B", "18C", "18D", "18E", "18F",

    "19A", "19B", "19C", "19D", "19E", "19F", "20A", "20B", "20C", "20D", "20E", "20F",

    "21A", "21B", "21C", "21D", "21E", "21F", "22A", "22B", "22C", "22D", "22E", "22F",

    "23A", "23B", "23C", "23D", "23E", "23F", "24A", "24B", "24C", "24D", "24E", "24F",

    "25A", "25B", "25C", "25D", "25E", "25F"

};


cout << "Enter 'MAS' to start the system: ";
cin >> start2end;


if (start2end == "MAS") {
    do {
        cout << "\n\n================================================" << endl;
```

```cpp
cout << "WELCOME TO MALAYSIA AIRLINES TICKET BOOKING SYSTEM" << endl;

cout << "=================================================" << endl << endl;

cout << "Available Destinations:" << endl;

cout << "KUALA LUMPUR ~ PENANG ~ JOHOR BAHRU ~ KUCHING ~ KOTA KINABALU" << endl;

cout << "JAKARTA ~ SYDNEY" << endl << endl;


do {

    cout << "Choose from this list >> PENANG(PEN) | JOHOR BAHRU(JHB) | KUCHING(KCH) |
KOTA KINABALU(BKI) | JAKARTA(JKT) | SYDNEY(SYD)" << endl << endl;

    cout << "From            : KUALA LUMPUR (KUL)" << endl;

    cout << "To (Write the code only) : ";

    cin >> destination;

    for (char &c : destination) {

        c = toupper(c);

    }

} while (destination != "JHB" && destination != "PEN" && destination != "KCH" && destination
!= "BKI" && destination != "JKT" && destination != "SYD");


cout << "Date (DD/MM/YYYY)     : ";

cin >> date;


do {

    do {

        cout << endl << "Select Preferred Flight Time ( m = morning | k = midday | n = night ): ";

        cin >> time;

        time[0] = tolower(time[0]);

    } while (time != "m" && time != "k" && time != "n");


    if (time == "m") {

        if (destination == "JHB") {

            departTime = "07:00"; arriveTime = "08:00"; flightTime = "1h"; flightPrice = 300.00;
gate = "A1"; flightNo = "MH11";
```

```
            } else if (destination == "PEN") {

                departTime = "07:05"; arriveTime = "08:10"; flightTime = "1h 5m"; flightPrice = 300.00;
gate = "A2"; flightNo = "MH21";

            } else if (destination == "KCH") {

                departTime = "07:15"; arriveTime = "09:05"; flightTime = "1h 50m"; flightPrice =
600.00; gate = "A3"; flightNo = "MH31";

            } else if (destination == "BKI") {

                departTime = "07:20"; arriveTime = "10:00"; flightTime = "2h 40m"; flightPrice =
900.00; gate = "A4"; flightNo = "MH41";

            } else if (destination == "JKT") {

                departTime = "07:25"; arriveTime = "09:30"; flightTime = "2h 5m"; flightPrice = 500.00;
gate = "B1"; flightNo = "MH321";

            } else if (destination == "SYD") {

                departTime = "07:30"; arriveTime = "15:50"; flightTime = "8h 20m"; flightPrice =
3560.00; gate = "B2"; flightNo = "MH341";

            }

        } else if (time == "k") {

            if (destination == "JHB") {

                departTime = "11:30"; arriveTime = "12:30"; flightTime = "1h"; flightPrice = 350.00;
gate = "A1"; flightNo = "MH12";

            } else if (destination == "PEN") {

                departTime = "11:35"; arriveTime = "12:40"; flightTime = "1h 5m"; flightPrice = 350.00;
gate = "A2"; flightNo = "MH22";

            } else if (destination == "KCH") {

                departTime = "11:45"; arriveTime = "13:35"; flightTime = "1h 50m"; flightPrice =
700.00; gate = "A3"; flightNo = "MH32";

            } else if (destination == "BKI") {

                departTime = "11:50"; arriveTime = "14:30"; flightTime = "2h 40m"; flightPrice =
950.00; gate = "A4"; flightNo = "MH42";

            } else if (destination == "JKT") {

                departTime = "11:55"; arriveTime = "14:00"; flightTime = "2h 5m"; flightPrice = 550.00;
gate = "B1"; flightNo = "MH322";

            } else if (destination == "SYD") {

                departTime = "12:00"; arriveTime = "20:20"; flightTime = "8h 20m"; flightPrice =
3590.00; gate = "B2"; flightNo = "MH342";
```

```cpp
            }
        } else if (time == "n") {
            if (destination == "JHB") {
                departTime = "20:40"; arriveTime = "21:40"; flightTime = "1h"; flightPrice = 400.00;
gate = "A1"; flightNo = "MH13";
            } else if (destination == "PEN") {
                departTime = "20:45"; arriveTime = "21:50"; flightTime = "1h 5m"; flightPrice = 400.00;
gate = "A2"; flightNo = "MH23";
            } else if (destination == "KCH") {
                departTime = "20:55"; arriveTime = "23:45"; flightTime = "1h 50m"; flightPrice =
800.00; gate = "A3"; flightNo = "MH33";
            } else if (destination == "BKI") {
                departTime = "21:00"; arriveTime = "23:40"; flightTime = "2h 40m"; flightPrice =
1000.00; gate = "A4"; flightNo = "MH43";
            } else if (destination == "JKT") {
                departTime = "21:05"; arriveTime = "23:10"; flightTime = "2h 5m"; flightPrice = 600.00;
gate = "B1"; flightNo = "MH323";
            } else if (destination == "SYD") {
                departTime = "21:10"; arriveTime = "05:30"; flightTime = "8h 20m"; flightPrice =
3660.00; gate = "B2"; flightNo = "MH343";
            }
        } else {
            wrongOutput();
        }


        cout << left << fixed << setprecision(2);
        cout << "\n\n>>>>>>>>>>   AVAILABLE FLIGHT   <<<<<<<<<<" << endl << endl;
        cout << setw(10) << "Depart:" << departTime << " -> " << arriveTime << endl;
        cout << setw(10) << "From:" << "KUL" << endl;
        cout << setw(10) << "To:" << destination << endl;
        cout << setw(10) << "Price:" << "RM " << flightPrice << " / Pax" << endl;
        cout << setw(10) << "Flight No.:" << flightNo << endl;
        cout << setw(10) << "Gate:" << gate << endl;
```

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        cout << setw(10) << "Duration:" << flightTime << endl;

        cout << "========================================" << endl << endl;


        cout << "Do you want to confirm this flight? ( y / n ): ";

        cin >> otherTime;

        otherTime = tolower(otherTime);

    } while (otherTime != 'y');


    cout << endl << "Number of Passengers: ";

    cin >> pax;


    cout << endl << "Do you want to add-on in-flight dining set? ( y / n ): ";

    cin >> diningAns;

    diningAns = tolower(diningAns);


    while (diningAns == 'y') {

        cout << left << "\n=========   IN-FLIGHT DINING SET   =========" << endl << endl;

        cout << setw(30) << "Breakfast Set [BF]" << ": Nasi Lemak, Hot Teh Tarik, and Kuih Seri Muka - RM 29.90" << endl;

        cout << setw(30) << "Lunch Set [LC]" << ": Chicken Biryani with Rice, Cold Orange Juice, and Mixed Fruits - RM 31.90" << endl;

        cout << setw(30) << "Tea-time Set [TT]" << ": Croissant, and Hot Tea - RM 9.90" << endl;

        cout << setw(30) << "Dinner Set [DN]" << ": Ayam Masak Merah with Rice, Cold Orange Juice, and Mixed Fruits - RM 24.90" << endl;

        cout << setw(30) << "Dessert Set [DS]" << ": Slice of Chocolate Cake, and Hot Coffee - RM 19.90" << endl << endl;

        cout << "========================================" << endl;


        cout << "\nPlease state the CODE of your chosen set: ";

        cin >> setCode;

        for (char &c : setCode) {

            c = toupper(c);
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        }

        cout << "How many sets do you want? : ";
        cin >> setQty;

        double currentSetPrice = 0.0;
        if (setCode == "BF") {
            currentSetPrice = 29.90;
        } else if (setCode == "LC") {
            currentSetPrice = 31.90;
        } else if (setCode == "TT") {
            currentSetPrice = 9.90;
        } else if (setCode == "DN") {
            currentSetPrice = 24.90;
        } else if (setCode == "DS") {
            currentSetPrice = 19.90;
        } else {
            cout << "Invalid dining set code. No dining set added for this selection." << endl;
            currentSetPrice = 0.0;
        }

        totalDining += calculateSingleDiningPrice(currentSetPrice, setQty);

        cout << fixed << setprecision(2) << "Your dining total: RM " << totalDining << endl;

        cout << "Do you want to order another set? ( y / n ): ";
        cin >> diningAns;
        diningAns = tolower(diningAns);
    }

    cout << endl << endl << "Enter your full name: ";
```

```cpp
cin.ignore();

getline(cin, name);


cout << "Enter your IC numbers: ";

cin >> ic;


cout << "Enter your email: ";

cin >> email;


cout << "Enter promo code (if any) | enter 'E' to skip: ";

cin >> code;

for (char &c : code) {

    c = toupper(c);

}


if (code == "SHRMZB00" || code == "HPBD2U" || code == "CNY24" || code == "GDAY") {

    cout << "You get 10% discount!" << endl;

    discPrice = 0.10;

} else {

    discPrice = 0.0;

    cout << "No valid promo code entered." << endl;

}


cout << "\nDo you want a life insurance? RM 49.00 / Pax ( y / n ): ";

char lifeInsChar;

cin >> lifeInsChar;

lifeInsChar = tolower(lifeInsChar);


if (lifeInsChar == 'y') {

    insPerPax = 49.00;

} else {
```

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        insPerPax = 0.0;

    }


    ticketPrice = flightPrice * pax;

    insPrice = insPerPax * pax;

    total = totalDining + ticketPrice + insPrice;


    afterDisc = total - (total * discPrice);

    tax = afterDisc * 0.06;

    netTotal = afterDisc + tax;


    cout << left << fixed << setprecision(2);

    cout << "\n\n===============  ONLINE BOARDING PASS  ===============" << endl <<
endl;

    cout << setw(20) << "Name" << " : " << setw(30) << name << "|| PAX : " << pax << endl;

    cout << setw(20) << "From" << " : " << setw(30) << "KUL" << "|| Date : " << date << endl;

    cout << setw(20) << "To" << " : " << setw(30) << destination << "|| Gate : " << gate << endl;

    cout << setw(20) << "Departure Time" << " : " << setw(30) << departTime << "|| Flight
Duration: " << flightTime << endl;

    cout << setw(20) << "Arrival Time" << " : " << setw(30) << arriveTime << "|| Flight No.: " <<
flightNo << endl;

    cout << setw(20) << "Seat" << " : ";

    seatArrange(seat, pax, totalPax);

    cout << endl << endl;

    cout << "====================================================" << endl << endl
<< endl;


    cout << "**************** FLIGHT RECEIPT ****************" << endl << endl;

    cout << setw(15) << "Name" << ": " << name << endl;

    cout << setw(15) << "IC" << ": " << ic << endl;

    cout << setw(15) << "Ticket" << ": KUL to " << destination << endl;

    cout << setw(15) << "Pax" << ": " << pax << endl;
```

```cpp
        cout << setw(15) << "Meal" << ": RM " << totalDining << endl;

        cout << setw(15) << "Insurance" << ": RM " << insPrice << endl << endl;

        cout << setw(15) << "Subtotal" << ": RM " << total << endl;

        cout << setw(15) << "Discount" << ": RM " << (total * discPrice) << endl << endl;

        cout << setw(15) << "After Discount" << ": RM " << afterDisc << endl;

        cout << setw(15) << "Tax (6%)" << ": RM " << tax << endl;

        cout << setw(15) << "Amount Due" << ": RM " << netTotal << endl << endl;

        cout << "THANK YOU AND ENJOY YOUR FLIGHT" << endl << endl;

        cout << "************************************************" << endl;


        cout << "PROCEED FOR ANOTHER CUSTOMER ( y / n ) : ";
        cin >> loopBook;
        loopBook = tolower(loopBook);


        totalDining = 0.0;


      } while (loopBook == 'y');
    } else {
      cout << "THIS SYSTEM HAS ENDED" << endl;
    }


    return 0;
}
```