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Program 5

SE114.11

PURPOSE:

To write a program which will help an airline dispatcher produce a weight and balance report for specific airline flights.

Ask the user to enter the airline name, flight number, number of passengers, and weight of fuel on board.

VARIABLE DICTIONARY:

REPRESENTS VARIABLE

Airline Name airline\_name

Average Weight of Passengers average\_passenger\_weight

Flight Number flight\_number

Gross Takeoff Weight gross\_takeoff\_weight

Max Weight of Fuel max\_fuel\_weight

Max Number of Passengers max\_passengers

Number of Passengers number\_of\_passengers

Run Reply run\_reply

Weight of Fuel weight\_of\_fuel

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#include <iostream>

#include <string>

using namespace std;

string airline\_name;

char run\_reply;

int max\_passengers;

int number\_of\_passengers;

int flight\_number;

double average\_passenger\_weight;

double gross\_takeoff\_weight;

double max\_fuel\_weight;

double weight\_of\_fuel;

void setup\_function();

void headings\_function();

void input\_function();

void process\_function();

void output\_function();

int main()

{

system("cls");

setup\_function();

cout << "Do you want to run this program?";

cin >> run\_reply;

run\_reply = toupper(run\_reply);

while (run\_reply != 'Y' && run\_reply != 'N')

{

cout << "Error" << endl;

cout << "Enter either a Y or an N";

cin >> run\_reply;

run\_reply = toupper(run\_reply);

}

while (run\_reply == 'Y')

{

headings\_function();

input\_function();

process\_function();

output\_function();

cout << "Do you want to run this program again?" << endl;

cin >> run\_reply;

run\_reply = toupper(run\_reply);

while (run\_reply != 'Y' && run\_reply != 'N')

{

cout << "Error" << endl;

cout << "Enter either a Y or an N";

cin >> run\_reply;

run\_reply = toupper(run\_reply);

}

}

return 0;

}

void setup\_function()

{

average\_passenger\_weight = 150;

max\_passengers = 250;

max\_fuel\_weight = 200000;

}

void headings\_function()

{

cout << " Airline Flight Dispatcher" << endl;

cout << " Weight and Balance Calculator" << endl;

cout << "Please enter:" << endl <<endl;

}

void input\_function()

{

cout << " Airline name: ============> ";

cin >> airline\_name;

cout << " Flight Number: ===========> ";

cin >> flight\_number;

cout << " Number of passengers: ====> ";

cin >> number\_of\_passengers;

while (number\_of\_passengers > max\_passengers)

{

cout << "Error" << endl;

cout << "Enter a number less than " << max\_passengers << endl;

cin >> number\_of\_passengers;

}

cout << " Weight of fuel: ==========> ";

cin >> weight\_of\_fuel;

while (weight\_of\_fuel > max\_fuel\_weight)

{

cout << "Error" << endl;

cout << "Enter a number less than " << max\_fuel\_weight << endl;

cin >> weight\_of\_fuel;

}

cout << endl;

}

void process\_function()

{

gross\_takeoff\_weight = (number\_of\_passengers \* average\_passenger\_weight) + weight\_of\_fuel;

}

void output\_function()

{

cout << "Gross Takeoff weight: " << gross\_takeoff\_weight << endl << endl << endl;

cout << "End of Weight and Balance Report for " << airline\_name << " Flight " << flight\_number << endl << endl;

}