You are an engineer at Airport Designers, Inc. You have been given the assignment of writing a program that will help with the sorting of baggage when a plane arrives at Dulles International Airport (IAD). When a plane takes off, the baggage information is sent to you electronically in the form of a data file (see example below). The data file will have the flight number, then the total number of bags followed by three columns: Bag ID# (8 digit number), Destination (3 letter airport code), and weight (in pounds).

*Flight Number*

**UA2714**

**8**

*Total # of bags*

**26512540 CHO 48.6**

**16252650 RIC 52.6**

*Bag data (ID #, Destination, weight (lbs))*

**22599875 IAD 25.2**

**33691025 IAD 29.4**

**22695874 ORD 35.9**

## 98545873 RIC 69.4

**26354789 LAS 48.6**

**26957148 CHO 115.0**

Your job is to write a program that will help the bag sorters. The program will do several things.

First, determine the name of the data file (prompt the user for it).

Second, count how many bags go to each location, and determine how many of those are overweight (over 50 pounds). There are three possible places for the bag sorter to send bags:

1. Baggage claim (only if destination is IAD)

2. Commuter Terminal (only if destination is RIC, CHO, ORF, BWI)

3. Main Conveyer Belt (all other destinations)

*Example – 2 Bags go to Baggage Claim, 4 Bags go to Commuter, and 2 Bags go*

*to the Main Conveyer Belt*

Third, determine how many train cars are needed for each particular baggage destination (above). The maximum weight that a train car can handle is 1000 pounds.

*Example – If the bags going to Baggage Claim weigh a total of 2400 pounds, you*

*should send 3 train cars to that particular plane to pick up bags for Baggage Claim.*

Fourth, determine how many drivers and handlers are needed for a particular flight, using the following criteria:

a. One driver is needed for each train (max of 3 cars)

b. One handler is needed for every 50 bags (round up)

c. One extra handler is needed if there are more than 10 “overweight” bags

**Note:** Drivers can act as handlers, also. So, if there are bags going to 3 different locations, there will be a minimum of 3 drivers on hand. They can handle up to 150 regular weight bags. If this is the case, no extra handlers are required. If there are 160 bags, then only 1 handler is needed (along with the 3 drivers).

Finally, create the output file in the format below (Prompt the user for the name of the output file):

##### Output Data File Name

###### Flight Number

Number of Bags going to Baggage Claim: XXX (YY are overweight)

Number of Bags going to Commuter Terminal: XXX (YY are overweight)

Number of Bags going to Main Conveyer: XXX (YY are overweight)

Number of cars needed for Baggage Claim: XX

Number of cars needed for Commuter Terminal: XX

Number of cars needed for Main Conveyer: XX

Number of drivers needed: XX

Number of baggage handlers needed: XX