

HOMEWORK 3 - Find the Most Energy Efficient Car
Due Date:10/30/2006

Problem statement: Write a program to read information about a number of cars. For each car, the user inputs the name of the car (a string of length 4), the miles traveled and the gallons of gasoline used. The program calculates the mile per gallon (MPG) for each car, print the values with appropriate labels. In the end, display the average MPG for all cars, and print out the name of the most energy efficient car, and its MPG. Assume the name of the car is always a string of length 4 and assume that all cars have different names.

Requirement

Follow the following steps to solve the problem:

1. Problem analysis and specification.
 - What the problem is,
 - What the input and output information are
2. Data organization and algorithm design.
 - How to organize and store data, define variables (name and type)
 - Develop algorithms - procedures to process the data and produce the required output, draw flow chart to represent the algorithm
 - How to detect the end of data
3. Write the program code. You need have the problem specification included as the comments in the beginning. You need write appropriate comments to explain what you are doing.
4. Execute the program with test data in the table.

Name	Miles Traveled	Gallons of Gasoline Used
FORD	231	14.8
CHEV	248	15.1
HOND	302	12.8
TOYO	147	9.25
DODG	88	7
MAZD	265	13.3

What to submit (submit it on class 11/4/2005)

1. The written specification
2. Variables names and types
3. Flow Chart
4. Source program
5. Sample execution result with test data

Demo your homework during any tutoring hours before or on due date 10/30/2006.

Help available

1. Instructor office hour: MW 2-3:30PM, Fri. 2-3PM
2. TA Tutoring hours: Mon. 3 – 5PM (DION 311), Thursday 6:30-8:30PM (DION 303)
3. If you finish your lab earlier, you can use the lab time to work on your homework.

Grading Policy

1. Written specification and flow chart (2)
2. Source code with good comments (1)
3. Test result and demo (2)