**DATABASE MANAGEMENT SYSTEM FOR AUTOMOBILE INDUSTRY**

**INTRODUCTION**:

Key concept of his software is to access the availability of automobiles, spares for the automobiles, pricing, exchange of automobiles. It helps to keep the the datas of the vehicles in an organized manner, which enhances the searching and readability. IT gives a robust experience to the user. We can assure that, the simple interface of the software and clear segregations in the categories of automobiles gives a clean and sleek user experience.

**LANGUAGE USED IN THE SOFTWARE**:

The software is empowered with Java. Java can be used in the database without disturbing the integrity, security and robustness of the database.

**METHODS USED IN THE SOFTWARE:**

* In this program Arraylist is used to store the data.
* [ArrayList](https://www.geeksforgeeks.org/arraylist-in-java/) is a resizable array implementation in Java.
* The backing data structure of ArrayList is an array of Object classes. ArrayList class in Java has 3 constructors. It has its own version of readObject and writeObject methods. Object Array in ArrayList is [transient](https://www.geeksforgeeks.org/transient-keyword-java/).
* Internally an ArrayList uses an Object[] Array which is an array of objects. All operation like deleting, adding, and updating the elements happens in this Object[] array.

**SOURCE CODE:**

import java.util.ArrayList;

import java.util.Scanner;

class carz{

public static void main(String [] args){

ArrayList<String> model = new ArrayList<String>();

ArrayList<String> edi = new ArrayList<String>();

ArrayList<Integer> make = new ArrayList<Integer>();

ArrayList<Integer> vin = new ArrayList<Integer>();

model.add("Dodge Challenger");

make.add(2022);

edi.add("Standard");

vin.add(11);

model.add("911 GT3 RS");

make.add(2024);

edi.add("Sports");

vin.add(12);

model.add("Zonda R");

make.add(2022);

edi.add("Standard");

vin.add(11);

model.add("Mazda 787b");

make.add(1990);

edi.add("Endurance");

vin.add(13);

Scanner sc = new Scanner(System.in);

String modelin, ediin, in;

int makein, vinin, pos, intin;

while (true) {

System.out.println("----------MENU----------");

System.out.print("1. View all\n"

+ "2. Add car\n"

+ "3. Remove car\n"

+ "4. Exit\n"

+ "Option....");

intin = sc.nextInt();

if (intin == 1) {

if (vin.isEmpty()) {

System.out.println("\nZero records to display\n");

}

else {

System.out.println("\nMake, Model, Edition, VIN no.");

for (int i = 0 ; i<vin.size() ; i++) {

System.out.println(make.get(i)+" | "+model.get(i)+" | "

+edi.get(i)+" | "+vin.get(i));

}

System.out.print("\n");

}

}

else if (intin == 2 ) {

System.out.println("-------ADD MENU-----");

sc.nextLine();

System.out.print("Make (year)....");

makein = sc.nextInt();

System.out.print("VIN....");

vinin = sc.nextInt();

sc.nextLine();

System.out.print("Model....");

modelin = sc.nextLine();

System.out.print("Edition....");

ediin = sc.nextLine();

model.add(modelin);

make.add(makein);

edi.add(ediin);

vin.add(vinin);

}

else if (intin == 3) {

System.out.println("----REMOVE MENU----");

System.out.println("VIN >>>");

sc.nextLine();

vinin = sc.nextInt();

pos = vin.indexOf(vinin);

if (pos < 0) {

System.out.println("VIN does not exist!");

System.out.println("Existing VINs : " + vin);

}

else {

System.out.println("\nConfirm details");

System.out.print(make.get(pos)+" "

+model.get(pos)+" "+edi.get(pos)+ "[y/n]....");

}

sc.nextLine();

in = sc.nextLine();

if (in.toLowerCase().equals("y")) {

make.remove(make.get(pos));

model.remove(model.get(pos));

edi.remove(edi.get(pos));

vin.remove(vin.get(pos));

System.out.println("RECORD REMOVED!\n");

}

else {

continue;

}

}

else if (intin == 4) {

break;

}

}

}

}

**WORKING OF THE SOFTWARE**:

The software has an option for category selection. The user needs to choose their desired categories like (SUV, Sedan) etc., then the options for the available brands will be prompted. After selecting the brand, the user can enter the model’s name in the search box. The search engine checks the database and provides the result based on the availability of the model, pricing, offers and special editions.