

```
package Cars;
```

```
public class Cars {
```

```
private int [] last_car = { 6, 15, 12, 3, 7, 0, 6, 0, 4, 12};  
private int [] this_car = { 6, 7, 12, 8, 5, 7, 8, 7, 8, 7};  
private int [] ages      = {35, 25, 38, 26, 29, 44, 28, 55, 29, 45 };
```

```
// return the most popular car type
```

```
public int find_popular ()  
{  
    int [] freq = new int[16];  
    for ( int i=0; i< this_car.length; i++)  
    {  
        if ( last_car [i] !=0 && this_car [i] != last_car [i] )  
            freq [this_car[i] ] ++;  
    }  
  
    int popular = 1;  
    for (int i = 2; i <= 15; i++)  
        if ( freq [i] > freq [popular] )  
            popular = i;  
    return popular;  
}
```

```
// check if younger people replcae their car more often than older people  
public boolean if_younger (int age)
```

```
{  
    int young=0, old=0, y_replace =0, o_replace=0;  
    for ( int i=0; i< this_car.length ; i++)  
    {  
        if ( last_car [i] != 0 )  
            if ( ages [ i ] <= age )  
            {  
                young++;  
                if (this_car [i] != last_car [i] )  
                    y_replace++;  
            }  
            else  
            {  
                old++ ;  
                if (this_car [i] != last_car [i] )  
                    o_replace++;  
            }  
    }  
    double y_per = 100.0 * y_replace / young;  
    double o_per = 100.0 * o_replace / old;  
    if (y_per - o_per > 20 )  
        return true;  
    else  
        return false;  
}
```

```

// test class Cars
package Cars;
import javax.swing.*;

public class TestCar {

    public static void main(String args[])
    {
        // create the object
        Cars c = new Cars ();

        // send message to object to return the most popular car type

        int popular = c.find_popular();
        JOptionPane.showMessageDialog(
            null, "\nThe most popular car is " + popular, "Results",
            JOptionPane.INFORMATION_MESSAGE );

        String s;
        // get the age limit
        s = JOptionPane.showInputDialog( "Enter age" );
        int age = Integer.parseInt(s);

        // send message to object to check if younger people replcae their car
        // more often than older people

        boolean check = c.if_younger(age);
        if ( check )
            JOptionPane.showMessageDialog(
                null, "\nyounger people replace their car \nmore often than older people" ,
                "Results",
                JOptionPane.INFORMATION_MESSAGE );

        System.exit( 0 ); // terminate the program
    }
}

```