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Code :

```
import java.util.Scanner;

enum model{
   SEDAN,
   SUV,
   HATCHBACK
}
public class Main {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      Car car;
      int count = 0;

      while(true){
         System.out.println("Welcome.");
         if(count == 0){
            System.out.print("Enter Car You Want to Construct : ");
            count++;
         }
         else{
            System.out.print("Enter Car You Want to Construct (Enter 'exit' to exit from program) : ");
         }
         String carName = sc.next().toUpperCase();
         System.out.println();

         if(carName.equals("EXIT")){
            System.out.println("Exiting the Program...");
            break;
         }
         car = CarFactory.constructCar(model.valueOf(carName));
         car.construct();
      }
   }
}

public class CarFactory {
   public static Car constructCar(model name){
      Car car = null;
      switch (name) {
         case SEDAN:
            car = new Sedan();
            break;
         case SUV:
            car = new SUV();
            break;
         case HATCHBACK:
            car = new HatchBack();
            break;
         default:
            break;
```

```
        }
        return car;
    }
}


public class HatchBack implements Car {
    private String carName = "HatchBack";
    private String carMaterial = "";
    private String engine = "";
    public String getCarName(){
        return carName;
    }
    Scanner sc= new Scanner(System.in);
    @Override
    public void construct() {
        System.out.println("Constructing HatchBack...");
        System.out.println();
        constructEngine();
        carFrame();
        displayInfo();
    }
    private void constructEngine(){
        System.out.println("Which Engine You Want to use.");
        System.out.println("1. Ferrari 3.9-litre twin-turbo V8");
        System.out.println("2. BMW M 3.2-litre straight-six");
        System.out.println("3. Ford 1.0-litre EcoBoost");
        System.out.println();
        System.out.print("Enter Your Choice : ");

        int choice = sc.nextInt();
        switch (choice){
            case 1:
                engine = "Ferrari 3.9-litre twin-turbo V8";
                break;
            case 2:
                engine = "BMW M 3.2-litre straight-six";
                break;
            case 3:
                engine = "Ford 1.0-litre EcoBoost";
                break;
            default:
                System.out.println("Enter Valid Choice..");
                break;
        }
        System.out.println(engine + " engine added to HatchBack.");
        System.out.println();
    }
    private void carFrame(){
        System.out.println("Which material you want use for Frame.");
        System.out.println("1. Steel");
        System.out.println("2. Carbon Fibre");
        System.out.println();
        System.out.print("Enter Your Choice : ");
```

```
        int choice = sc.nextInt();

        switch (choice){
            case 1:
                carMaterial = "Steel";
                break;
            case 2:
                carMaterial = "Carbon Fibre";
                break;
            default:
                System.out.println("Enter Valid Choice..");
                break;
        }
        System.out.println(carMaterial + " is Used to Build Car Frame.");
        System.out.println();
    }

    private void displayInfo(){
        System.out.println("----Car Details----");
        System.out.println("Car Name : " + getCarName());
        System.out.println("Car Engine : " + engine);
        System.out.println("Car Frame Material : " + carMaterial);
        System.out.println();
    }
}


public class Sedan implements Car{
    private String carName = "Sedan";
    private String carMaterial = "";
    private String engine = "";
    public String getCarName(){
        return carName;
    }
    Scanner sc= new Scanner(System.in);
    @Override
    public void construct() {
        System.out.println("Constructing Sedan...");
        System.out.println();
        constructEngine();
        carFrame();
        displayInfo();
    }
    private void constructEngine(){

        System.out.println("Which Engine You Want to use.");
        System.out.println("1. Ferrari 3.9-litre twin-turbo V8");
        System.out.println("2. BMW M 3.2-litre straight-six");
        System.out.println("3. Ford 1.0-litre EcoBoost");
        System.out.println();
        System.out.print("Enter Your Choice : ");

        int choice = sc.nextInt();
        switch (choice){
            case 1:
```

```
            engine = "Ferrari 3.9-litre twin-turbo V8";
            break;
         case 2:
            engine = "BMW M 3.2-litre straight-six";
            break;
         case 3:
            engine = "Ford 1.0-litre EcoBoost";
            break;
         default:
            System.out.println("Enter Valid Choice..");
            break;
      }
      System.out.println(engine + " engine added to SUV.");
      System.out.println();
   }
   private void carFrame(){
      System.out.println("Which material you want use for Frame.");
      System.out.println("1. Steel");
      System.out.println("2. Carbon Fibre");
      System.out.println();
      System.out.print("Enter Your Choice : ");

      int choice = sc.nextInt();
      switch (choice){
         case 1:
            carMaterial = "Steel";
            break;
         case 2:
            carMaterial = "Carbon Fibre";
            break;
         default:
            System.out.println("Enter Valid Choice..");
            break;
      }
      System.out.println("Car Material : " + carMaterial);
      System.out.println();
   }
   private void displayInfo(){
      System.out.println("----Car Details----");
      System.out.println("Car Name : " + getCarName());
      System.out.println("Car Engine : " + engine);
      System.out.println("Car Frame Material : " + carMaterial);
      System.out.println();
   }
}
import java.util.Scanner;

public class SUV implements Car{
   private String carName = "SUV";
   private String carMaterial = "";
   private String engine = "";
   public String getCarName(){
      return carName;
   }
   Scanner sc= new Scanner(System.in);
```

```
@Override
public void construct() {
    System.out.println("Constructing SUV...");
    System.out.println();
    constructEngine();
    carFrame();
    displayInfo();
}
private void constructEngine(){
    System.out.println("Which Engine You Want to use.");
    System.out.println("1. Ferrari 3.9-litre twin-turbo V8");
    System.out.println("2. BMW M 3.2-litre straight-six");
    System.out.println("3. Ford 1.0-litre EcoBoost");
    System.out.println();
    System.out.print("Enter Your Choice : ");

    int choice = sc.nextInt();
    switch (choice){
        case 1:
            engine = "Ferrari 3.9-litre twin-turbo V8";
            break;
        case 2:
            engine = "BMW M 3.2-litre straight-six";
            break;
        case 3:
            engine = "Ford 1.0-litre EcoBoost";
            break;
        default:
            System.out.println("Enter Valid Choice..");
            break;
    }
    System.out.println(engine + " engine added to SUV.");
    System.out.println();
}
private void carFrame(){
    System.out.println("Which material you want use for Frame.");
    System.out.println("1. Steel");
    System.out.println("2. Carbon Fibre");
    System.out.println();
    System.out.print("Enter Your Choice : ");

    int choice = sc.nextInt();
    switch (choice){
        case 1:
            carMaterial = "Steel";
            break;
        case 2:
            carMaterial = "Carbon Fibre";
            break;
        default:
            System.out.println("Enter Valid Choice..");
            break;
    }
    System.out.println("Car Material : " + carMaterial);
    System.out.println();
```

```
    }
    private void displayInfo(){
        System.out.println("----Car Details----");
        System.out.println("Car Name : " + getCarName());
        System.out.println("Car Engine : " + engine);
        System.out.println("Car Frame Material : " + carMaterial);
        System.out.println();
    }
}
```

Output :

```
Welcome.
Enter Car You Want to Construct : Sedan

Constructing Sedan...

Which Engine You Want to use.
1. Ferrari 3.9-litre twin-turbo V8
2. BMW M 3.2-litre straight-six
3. Ford 1.0-litre EcoBoost

Enter Your Choice : 1
Ferrari 3.9-litre twin-turbo V8 engine added to SUV.

Which material you want use for Frame.
1. Steel
2. Carbon Fibre

Enter Your Choice : 2
Car Material : Carbon Fibre

----Car Details----
Car Name : Sedan
Car Engine : Ferrari 3.9-litre twin-turbo V8
Car Frame Material : Carbon Fibre

Welcome.
Enter Car You Want to Construct (Enter 'exit' to exit from program) : SUV

Constructing SUV...

Which Engine You Want to use.
1. Ferrari 3.9-litre twin-turbo V8
2. BMW M 3.2-litre straight-six
3. Ford 1.0-litre EcoBoost

Enter Your Choice : 3
Ford 1.0-litre EcoBoost engine added to SUV.

Which material you want use for Frame.
1. Steel
2. Carbon Fibre

Enter Your Choice : 1
Car Material : Steel
```

----Car Details----
Car Name : SUV
Car Engine : Ford 1.0-litre EcoBoost
Car Frame Material : Steel

Welcome.
Enter Car You Want to Construct (Enter 'exit' to exit from program) : exit

Exiting the Program...