```
package assignment_1;
import java.util.* ;

interface vehicle
{
   void ShowData() ;
   void changeGear(int inc) ;
   void changeSpeed(int inc) ;
   void applyBrakes() ;
}

class bicycle implements vehicle
{
   int speed = 0 , gear = 0 ;
   // Function made to print the detail of the bicycle
   public void ShowData()
   {
      System.out.println("Speed of the bicycle: " + speed) ;
      System.out.println("Gear of the bicycle: " + gear) ;
   }
   public void changeGear(int g)
   {
      this.gear += g ;
   }
   public void changeSpeed(int s)
   {
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```
        this.speed += s ;
        this.speed = Math.max(this.speed , 0) ;
    }
    public void applyBrakes()
    {
        this.speed = 0 ;
        this.gear = 0 ;
    }
}
class bike implements vehicle
{
    int speed = 0 , gear = 0 ;
    public void ShowData( )
    {
        System.out.println("Speed of the bike: " + speed) ;
        System.out.println("Gear of the bike: " + gear) ;
    }
    public void changeGear(int g)
    {
        this.gear += g ;
    }
    public void changeSpeed(int s)
    {
        this.speed += s ;
        this.speed = Math.max(this.speed , 0) ;
    }
```

```
    public void applyBrakes( )
    {
        this.speed = 0 ;
        this.gear = 0 ;
    }
}


class car implements vehicle
{
    int speed = 0 , gear = 0 ;
    public void ShowData( )
    {
        System.out.println("Speed of the car: " + speed) ;
        System.out.println("Gear of the car: " + gear) ;
    }

    public void changeGear(int g)
    {
        this.gear += g ;
    }

    public void changeSpeed(int s)
    {
        this.speed += s ;
        this.speed = Math.max(this.speed , 0) ;
```

```
    }

    public void applyBrakes()
    {
        this.speed = 0 ;
        this.gear = 0 ;
    }
}

public class Main1
{
    public static void menu( )
    {
        System.out.println( ) ;
        System.out.println("Please enter the vehicle:") ;
        System.out.println("1. Bicycle") ;
        System.out.println("2. Bike") ;
        System.out.println("3. Car") ;
        System.out.println("4. Exit") ;
        System.out.print("Please enter your choice: ") ;
    }
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        while(true)
        {
```

```
menu();
int choice=sc.nextInt();
if(choice == 1)
{
   bicycle nova = new bicycle() ;

   // Changing the speed of the bicycle
   System.out.println("Changing the speed of the bicycle") ;
   nova.changeSpeed(50) ;

   // Changing the gear of the bicycle
   System.out.println("Changing the gear of the bicycle") ;
   nova.changeGear(4) ;

   // Printing the data of the bicycle
   System.out.println("Printing the data of the bicycle") ;
   nova.ShowData() ;

   // Applying Brakes
   System.out.println("Applying brake to the bicycle") ;
   nova.applyBrakes() ;

   // Printing the data of the bicycle after applying brake
   System.out.println("Printing the data of the bicycle after applying brake") ;
   nova.ShowData() ;
}
```

```
else if(choice == 2)
{
   bike KTM = new bike();

   // changing the gear of the bike
   System.out.println("Changing the gear of the bike");
   KTM.changeGear(5);

   //changing the speed of the bike
   System.out.println("Changing the speed of the bike");
   KTM.changeSpeed(70);

   // printing the data of the bike
   System.out.println("Printing the data of the bike");
   KTM.ShowData();

   System.out.println("Applying brake to the bike");
   KTM.applyBrakes();

   // printing the data of the bike after applying brake
   System.out.println("Printing the data of the bike after applying brake");
   KTM.ShowData();
}
else if(choice == 3)
{
   car tata = new car();
```

```
    // changing the gear of the car
    System.out.println("Changing the gear of the car");
    tata.changeGear(7);

    //changing the speed of the car
    System.out.println("Changing the speed of the car");
    tata.changeSpeed(120);

    // printing the data of the car
    System.out.println("Printing the data of the car");
    tata.ShowData();

    System.out.println("Applying brake to the car");
    tata.applyBrakes();

    // printing the data of the car after applying brake
    System.out.println("Printing the data of the car after applying brake");
    tata.ShowData();
}
else if(choice == 4)
{
    System.out.println("Thank You!");
    break;
}
else
```

```
        {
            System.out.println("Invalid choice, Please try again.");
        }
      }
   }
}
```

```
Please enter the vehicle:
1. Bicycle
2. Bike
3. Car
4. Exit
Please enter your choice: 1
Changing the speed of the bicycle
Changing the gear of the bicycle
Printing the data of the bicycle
Speed of the bicycle: 50
Gear of the bicycle: 4
Applying brake to the bicycle
Printing the data of the bicycle after applying brake
Speed of the bicycle: 0
Gear of the bicycle: 0

Please enter the vehicle:
1. Bicycle
2. Bike
3. Car
```

4. Exit

Please enter your choice: 2

Changing the gear of the bike

Changing the speed of the bike

Printing the data of the bike

Speed of the bike: 70

Gear of the bike: 5

Applying brake to the bike

Printing the data of the bike after applying brake

Speed of the bike: 0

Gear of the bike: 0

Please enter the vehicle:

1. Bicycle

2. Bike

3. Car

4. Exit

Please enter your choice: 3

Changing the gear of the car

Changing the speed of the car

Printing the data of the car

Speed of the car: 120

Gear of the car: 7

Applying brake to the car

Printing the data of the car after applying brake

Speed of the car: 0

Gear of the car: 0

Please enter the vehicle:

1. Bicycle

2. Bike

3. Car

4. Exit

Please enter your choice: 3

Changing the gear of the car

Changing the speed of the car

Printing the data of the car

Speed of the car: 120

Gear of the car: 7

Applying brake to the car

Printing the data of the car after applying brake

Speed of the car: 0

Gear of the car: 0

Please enter the vehicle:

1. Bicycle

2. Bike

3. Car

4. Exit

Please enter your choice: 4

Thank You!