

```
Java Work - ZSGS/src/Inheritance_DAY10/first.java - Eclipse IDE
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first.java
1 package Inheritance_DAY10;
2 /*1. Write a hierarchy of geometric shape classes
3 * 'Circle', 'Rectangle', etc inherited from a
4 * common base class 'Shape'*/
5 class Shape{
6     int side=3;
7     void getSide() {
8         System.out.println("Shape has "+side+" side");
9     }
10 }
11 class Circle extends Shape{
12     int side = 0;
13     void getSide() {
14         System.out.println("Circle has "+side+" side");
15     }
16 }
17 class Rectangle extends Shape{
18     int side=4;
19     void getSide() {
20         System.out.println("Rectangle has "+side+" side");
21     }
22 }
23 class Square extends Shape{
24     int side=4;
25     void getSide() {
26         System.out.println("Square has "+side+" side");
27     }
28 }
29
30 public class first {
31
32     public static void main(String[] args) {
33         Shape s = new Shape();
34         Circle c = new Circle();
35         Rectangle r = new Rectangle();
36         Square s1 = new Square();
37         s.getSide();
38     }
39 }

Console
terminated> first (8) [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Jul 27, 2024, 11:28 PM)
Shape has 3 side
Circle has 0 side
Rectangle has 4 side
Square has 4 side

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+0.27%
```

```
Java Work - ZSGS/src/Inheritance_DAY10/second.java - Eclipse IDE
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second.java
1 package Inheritance_DAY10;
2 /*2. Design a Student Parent class and ZSGSStudent Child class.
3 * Create constructors in both class with varying number of
4 * parameters. Call parent constructor from child constructor.
5 * Try experimenting by creating child object using parent
6 * constructor.*/
7
8 class Student{
9     String Name;
10    String DOB;
11    long Phone;
12    Student(String name,String dob,long phone){
13        Name = name;
14        DOB = dob;
15        Phone = phone;
16    }
17    void display() {
18        System.out.println("Name : " +Name);
19        System.out.println("DOB : " +DOB);
20        System.out.println("Phone : " +Phone);
21    }
22 }
23 class ZSGSStudent extends Student{
24     String Id;
25     int Rate;
26     ZSGSStudent(String name,String dob,long phone,String id,int rate){
27         super(name,dob,phone);
28         Id = id;
29         Rate = rate;
30     }
31     void display() {
32         System.out.println("Name : " +Name);
33         System.out.println("DOB : " +DOB);
34         System.out.println("Phone : " +Phone);
35         System.out.println("Id : " +Id);
36         System.out.println("Rate : " +Rate);
37     }
38 }

Console
terminated> second (9) [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Jul 27, 2024, 11:28 PM)
Name : Vengatesh
DOB : 24/10/2001
Phone : 9087366333
Id : ZSGS-0485
Rate : 8
Name : Vengat
DOB : 04/10/2001
Phone : 9087366333

Tomorrow's high
Near record
```

Java Work - ZSGS/src/inheritance\_DAY10/third.java - Eclipse IDE

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      - inheritance\_DAY10
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        - second.java
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      - Workouts
      - module-info.java

```
1 package Inheritance_DAY10;
2 //3. Create Vehicle Hierarchy
3
4 class Vehicle{
5     Vehicle(){
6         System.out.println("Vehicle Moves");
7     }
8 }
9 class Car extends Vehicle{
10     Car(){
11         System.out.println("Car Moves");
12     }
13 }
14 class Bike extends Vehicle{
15     Bike(){
16         System.out.println("Bike Moves");
17     }
18 }
19 class Auto extends Vehicle{
20     Auto(){
21         System.out.println("Auto Moves");
22     }
23 }
24
25 public class third {
26
27     public static void main(String[] args) {
28         Car c = new Car();
29     }
30 }
31
32 }
33
```

Console

terminated> third (7) [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Jul 27, 2024, 11:29 PM)

Vehicle Moves  
Car Moves

Tomorrow's high  
Near record

Search

11:29 PM  
7/27/2024

Java Work - ZSGS/src/inheritance\_DAY10/fourth.java - Eclipse IDE

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```
8 class Library{
9     String UserType;
10    String UserName;
11    String Password;
12    void login() {}
13    void register() {}
14    void logout() {}
15 }
16 class User extends Library{
17     int id;
18     void verify() {}
19     void checkAccount() {}
20     void get_book_info() {}
21 }
22
23 class Account extends User{
24     int borrowedBooks;
25     int reservedBooks;
26     int returnedBooks;
27     int lostBooks;
28     int fineAmount;
29     void calculate_fine() {}
30 }
31 class Book extends Library{
32     String title;
33     String Author;
34     String ISBN;
35     String Publication;
36     void showDue() {}
37     void reservation_Status() {}
38     void feedback() {}
39     void book_Request() {}
40     void rnew_Info() {}
41 }
42 class Librarian extends Library{
43     int id;
44     String SearchString;
45 }
```

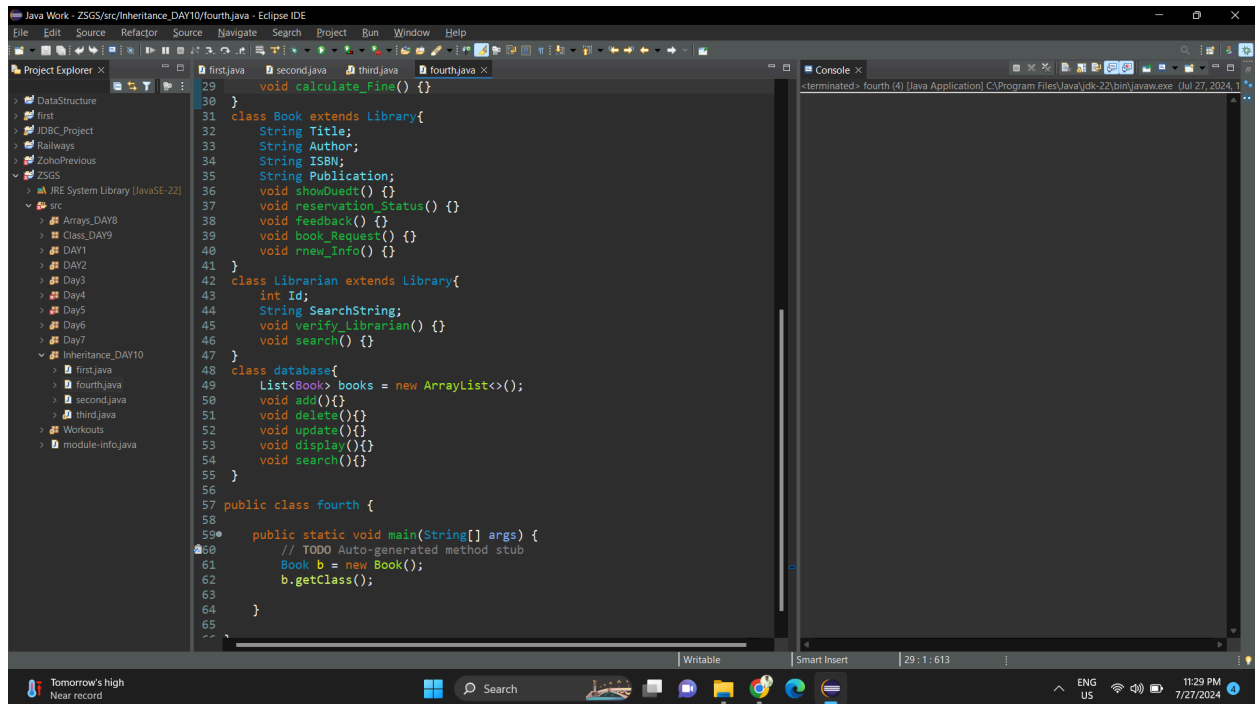
Console

terminated> fourth (4) [Java Application] C:\Program Files\Java\jdk-22\bin\javaw.exe (Jul 27, 2024, 11:29 PM)

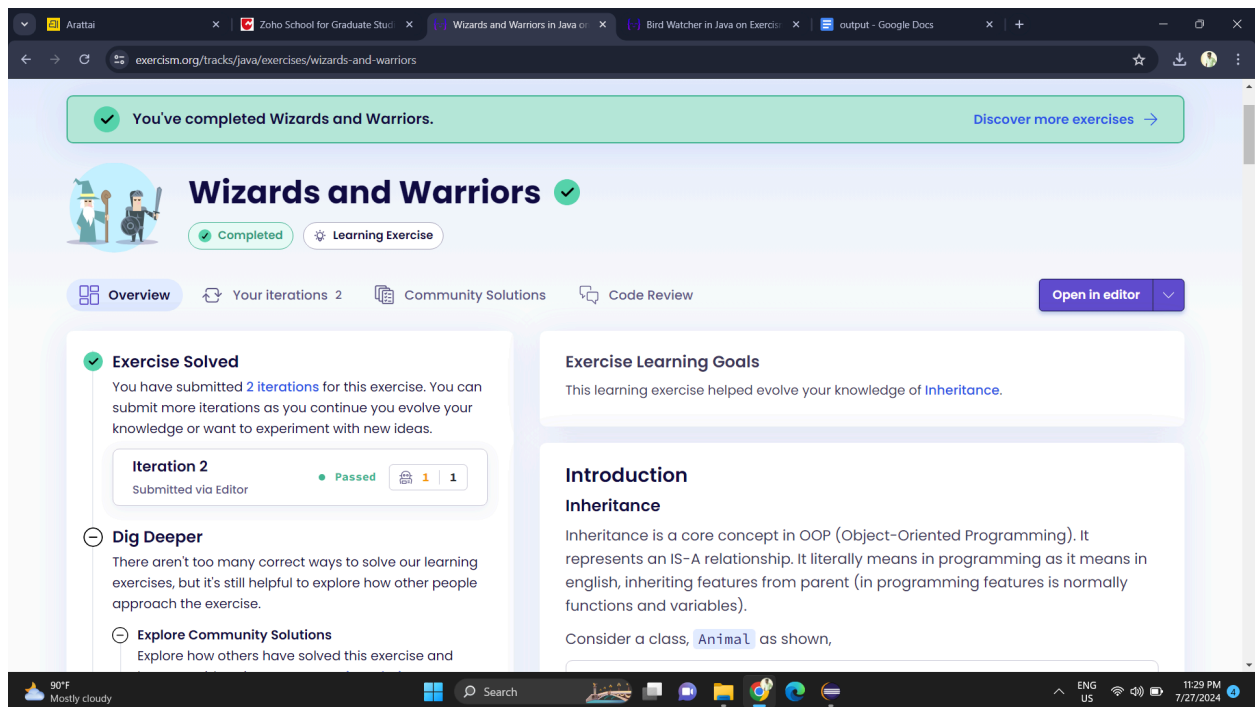
Tomorrow's high  
Near record

Search

11:29 PM  
7/27/2024



```
29 void calculate_Fine() {}
30 }
31 class Book extends Library{
32     String Title;
33     String Author;
34     String ISBN;
35     String Publication;
36     void showDuedt() {}
37     void reservation_Status() {}
38     void feedback() {}
39     void book_Request() {}
40     void rnew_Info() {}
41 }
42 class Librarian extends Library{
43     int Id;
44     String SearchString;
45     void verify_Librarian() {}
46     void search() {}
47 }
48 class database{
49     List<Book> books = new ArrayList<>();
50     void add(){}
51     void delete(){}
52     void update(){}
53     void display(){}
54     void search(){}
55 }
56
57 public class fourth {
58
59     public static void main(String[] args) {
60         // TODO Auto-generated method stub
61         Book b = new Book();
62         b.getClass();
63     }
64 }
65 }
```



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exersism.org/tracks/java/exercises/wizards-and-warriors

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## Wizards and Warriors ✓

Completed Learning Exercise

Overview Your Iterations 2 Community Solutions Code Review [Open in editor](#)

✓ **Exercise Solved**  
You have submitted 2 iterations for this exercise. You can submit more iterations as you continue you evolve your knowledge or want to experiment with new ideas.

Iteration 2 Passed 1 | 1  
Submitted via Editor

⊖ **Dig Deeper**  
There aren't too many correct ways to solve our learning exercises, but it's still helpful to explore how other people approach the exercise.

⊖ **Explore Community Solutions**  
Explore how others have solved this exercise and

**Exercise Learning Goals**  
This learning exercise helped evolve your knowledge of [Inheritance](#).

**Introduction**  
**Inheritance**  
Inheritance is a core concept in OOP (Object-Oriented Programming). It represents an IS-A relationship. It literally means in programming as it means in english, inheriting features from parent (in programming features is normally functions and variables).  
Consider a class, `Animal` as shown,