CS4800 HW1

inheritance


```
CS4800_Hw1    Version control              Current File

Project

CS4800_Hw1  C:\Users\Ivan\IdeaProjects\CS4800_Hw1
  .idea
  out
  src
    Aggregation
    Composition
    Inheritance
      baseEmployee
      commissionEmployee
      employee
      hourlyEmployee
      inheritanceDriver
      salariedEmployee
    Polymorphism
      cargoShip
      cruiseShip
      polymorphismDriver
      ship
    Main
  .gitignore
  CS4800_Hw1.iml
  External Libraries
  Scratches and Consoles
```

commissionEmployee.java   baseEmployee.java   hourlyEmployee.java   employee.java   inheritanceDriver.java   salariedEmployee.java

```java
            salariedEmployee employee1 = new salariedEmployee();
            employee1.setFirstName("Joe");
            employee1.setLastName("Jones");
            employee1.setSSN("111-11-1111");
            employee1.setWeeklySalary(2500);

            hourlyEmployee employee2 = new hourlyEmployee();
            employee2.setFirstName("Stephanie");
            employee2.setLastName("Smith");
            employee2.setSSN("222-22-2222");
            employee2.setWage(25);
            employee2.setHoursWorked(32);

            hourlyEmployee employee3 = new hourlyEmployee();
            employee3.setFirstName("Mary");
            employee3.setLastName("Quinn");
            employee3.setSSN("333-33-3333");
            employee3.setWage(19);
            employee3.setHoursWorked(47);

            commissionEmployee employee4 = new commissionEmployee();
            employee4.setFirstName("Nicole");
            employee4.setLastName("Dior");
            employee4.setSSN("444-44-4444");
            employee4.setCommissionRate(15);
            employee4.setGrossSales(50000);

            salariedEmployee employee5 = new salariedEmployee();
            employee5.setFirstName("Renwa");
            employee5.setLastName("Chanel");
```

Run   inheritanceDriver

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=58219:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8 -classp
Employee Name: Joe Jones SSN: 111-11-1111 Weekly Salary: 2500
Employee Name: Stephanie Smith SSN: 222-22-2222 Wage: 25 Hours Worked: 32
Employee Name: Mary Quinn SSN: 333-33-3333 Wage: 19 Hours Worked: 47
Employee Name: Nicole Dior SSN: 444-44-4444 Commission Rate: 15 Gross Sales: 50000
Employee Name: Renwa Chanel SSN: 555-55-5555 Weekly Salary: 1700
Employee Name: Mike Davenport SSN: 666-66-6666 Base Salary: 95000
Employee Name: Mahnaz Vaziri SSN: 777-77-7777 Commission Rate: 22 Gross Sales: 40000

Process finished with exit code 0
```

CS4800_Hw1 > src > Inheritance > inheritanceDriver   59:40   CRLF   UTF-8   4 spaces

Polymorphism


```java
{
    public static void main(String[] args)
    {

        ship ship1 = new ship();
        ship1.setShipName("Ship 1");
        ship1.setYearBuild("6000");

        cruiseShip ship2 = new cruiseShip();
        ship2.setShipName("Ship 2");
        ship2.setYearBuild("6050");
        ship2.setMaxPassengers(5);

        cargoShip ship3 = new cargoShip();
        ship3.setShipName("Ship 3");
        ship3.setYearBuild("6080");
        ship3.setCapacity(10000);

        ship[] shipArray = new ship[3];

        shipArray[0] = ship1;
        shipArray[1] = ship2;
        shipArray[2] = ship3;

        for(int i = 0; i < shipArray.length; i++)
        {
            System.out.println(shipArray[i].toString());
        }
    }
}
```

Run output:

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=58363:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8 -classp
Ship Name: Ship 1 Year Built: 6000
Ship Name: Ship 2 Max Passengers: 5
Ship Name: Ship 3 Capacity in Tonnage: 10000

Process finished with exit code 0
```

Aggregation


```java
package Aggregation;

public class aggregationDriver
{
    public static void main(String[] args)
    {
        //instructor instructor1 = new instructor("Nima", "Davarpanah", "3-2636");
        //textbook textbook1 = new textbook("Clean Code", "Robert Cecil Martin", "Pearson");
        //course course1 = new course("CS 4800", instructor1, textbook1);

        instructor instructor1 = new instructor();
        instructor1.setFirstName("Nima");
        instructor1.setLastName("Davarpanah");
        instructor1.setOfficeNumber("3-2636");

        textbook textbook1 = new textbook();
        textbook1.setBookTitle("Clean Code");
        textbook1.setAuthor("Robert Cecil Martin");
        textbook1.setPublisher("Pearson");

        course course1 = new course();
        course1.setCourseName("CS 4800");
        course1.setInstructor(instructor1);
        course1.setTextbook(textbook1);


        System.out.println(course1.toString());

        //instructor instructor2 = new instructor("John", "Do", "3-54");
        //textbook textbook2 = new textbook("Yearbook", "School", "CPP");
        //course course2 = new course("CS 0000", instructor2, textbook2);
```

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=57933:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8 -classp
Course: CS 4800 Instructor: Nima Davarpanah, 3-2636 TextBook: Clean Code, Robert Cecil Martin, Pearson
Course: CS 0000 Instructor: John Do, 3-54 TextBook: Yearbook, School, CPP

Process finished with exit code 0
```

Composition

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=57506:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8 -classp
  Folder: php_demo1,
    Folder: source_files,
      Folder: phalcon,
      Folder: app,
        Folder: config,
        Folder: controllers,
        Folder: library,
        Folder: migrations,
        Folder: models,
        Folder: views,
      Folder: cache,
      Folder: public,
 File: htaccess
 File: htrouter.php
 File: index.html
    Folder: include_path,
    Folder: Remote Files,

Process finished with exit code 0
```

.Hw1 > src > Composition > © folder > ⓜ printFolder   37:28   CRLF   UTF-8   ⌀   4 spaces   ⌹

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=57567:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8 -classp
 Folder: php_demo1,
    Folder: source_files,
      Folder: phalcon,
      Folder: cache,
      Folder: public,
 File: htaccess
 File: htrouter.php
 File: index.html
    Folder: include_path,
    Folder: Remote Files,

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk-17.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\lib\idea_rt.jar=57579:C:\Program Files\JetBrains\IntelliJ IDEA 2023.3.4\bin" -Dfile.encoding=UTF-8 -classp
 Folder: php_demo1,
    Folder: source_files,
      Folder: phalcon,
      Folder: cache,
    Folder: include_path,
    Folder: Remote Files,

Process finished with exit code 0
```