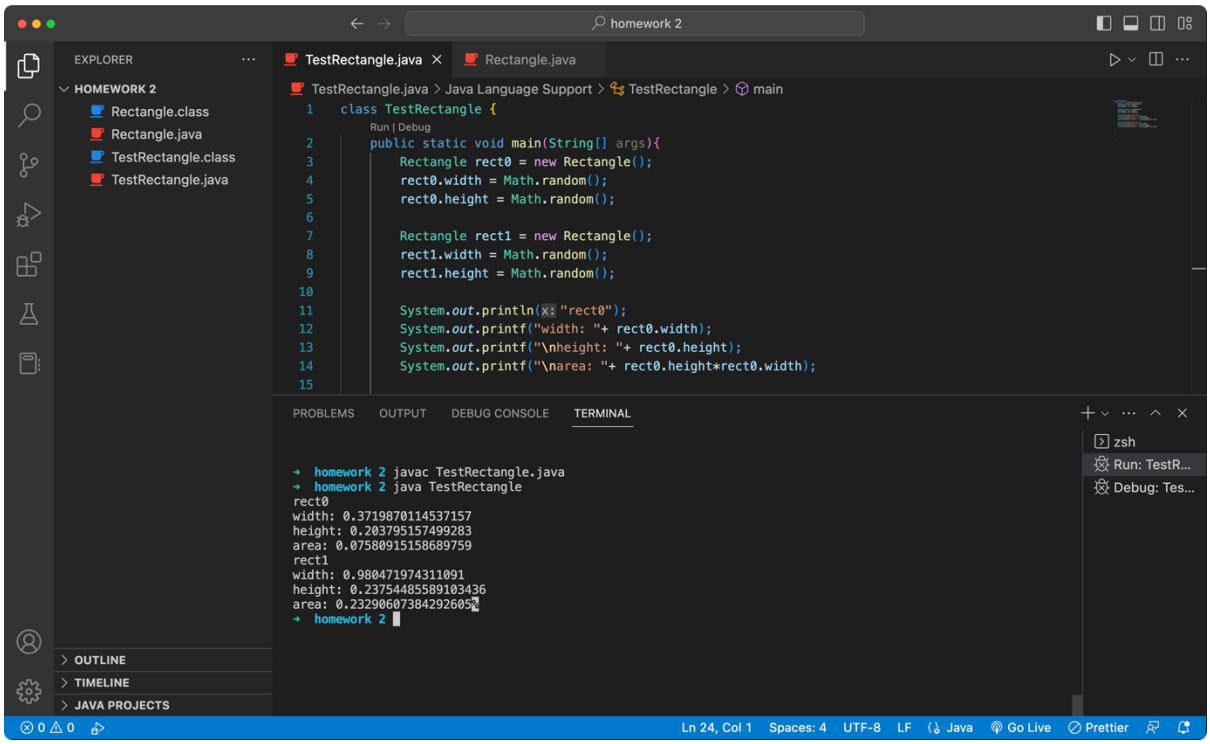
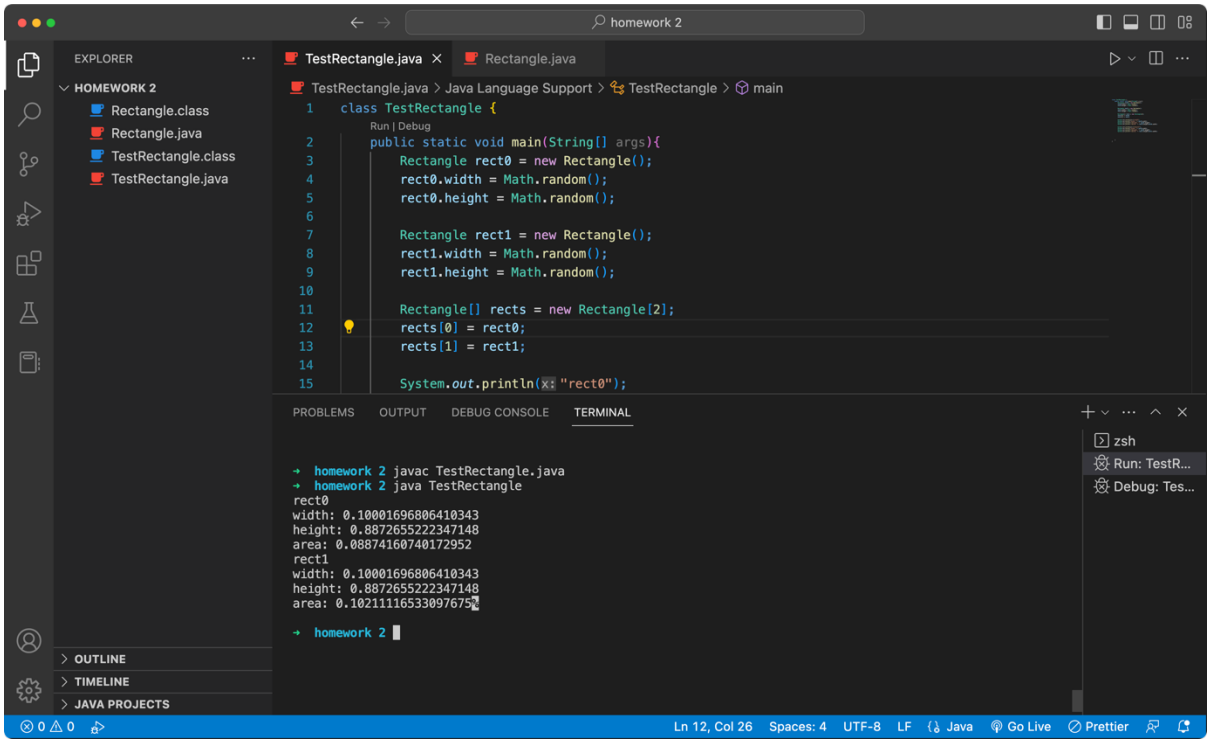
Name : Radhyanas Oetomo
NIM : 22/492226/PA/21092

Algorithm and Data Structure Lab
Homework 2

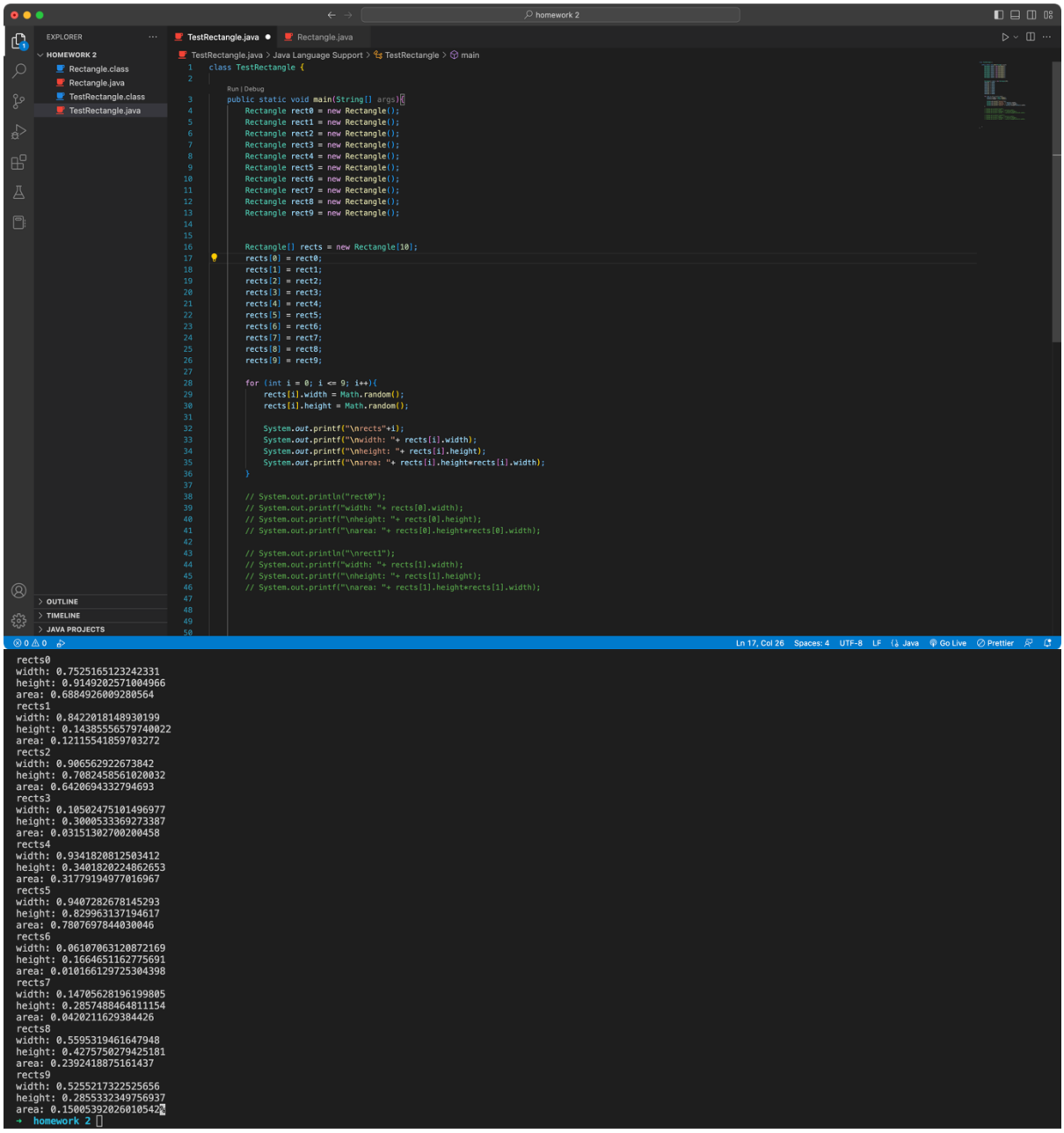
1.1



1.2

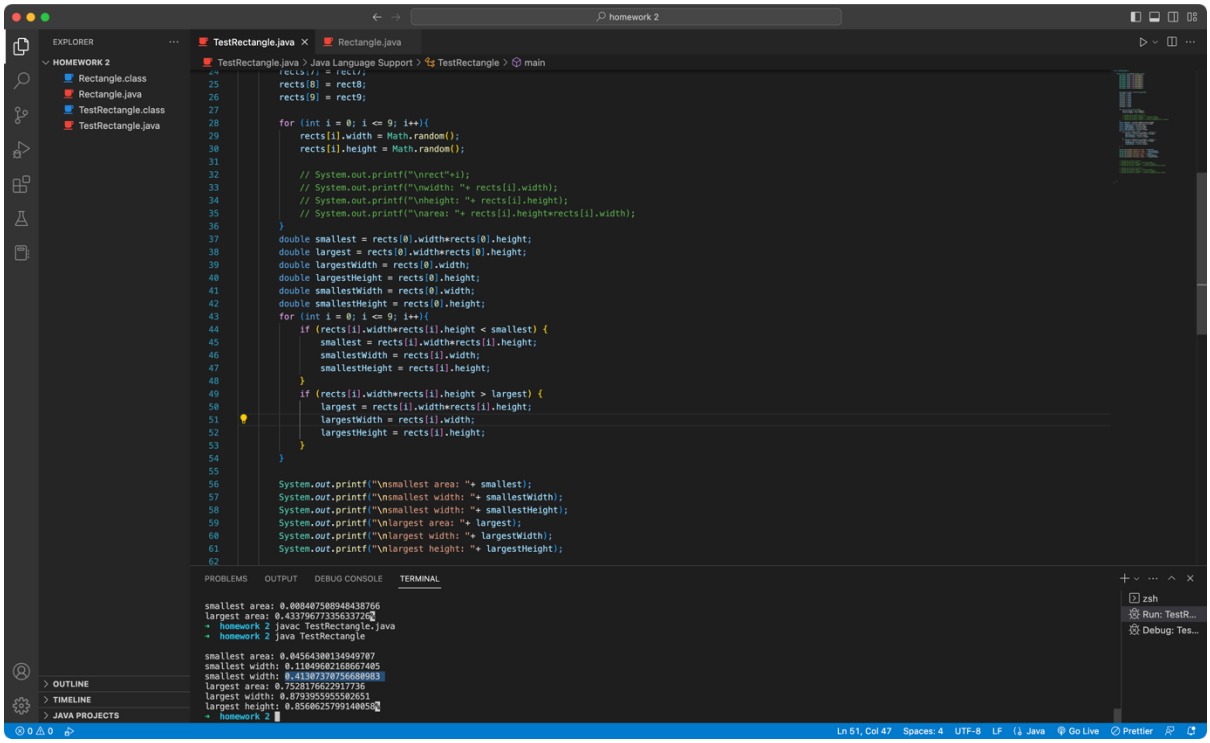


1.3

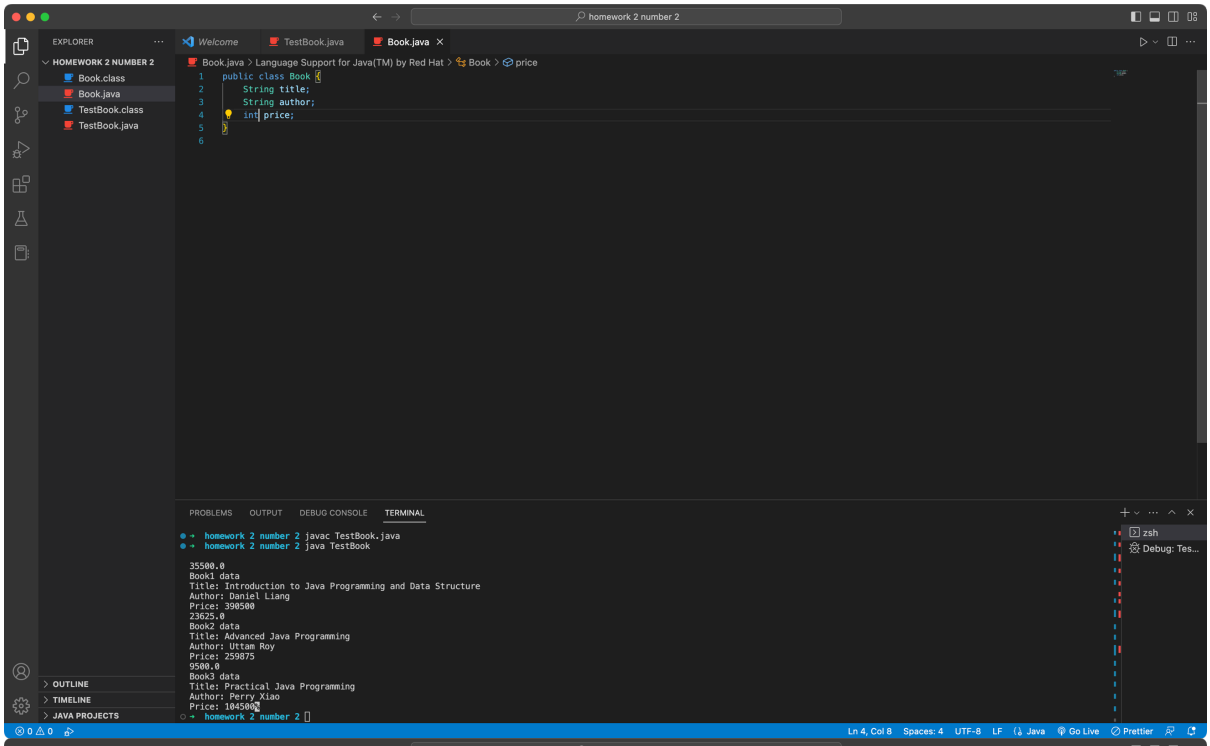


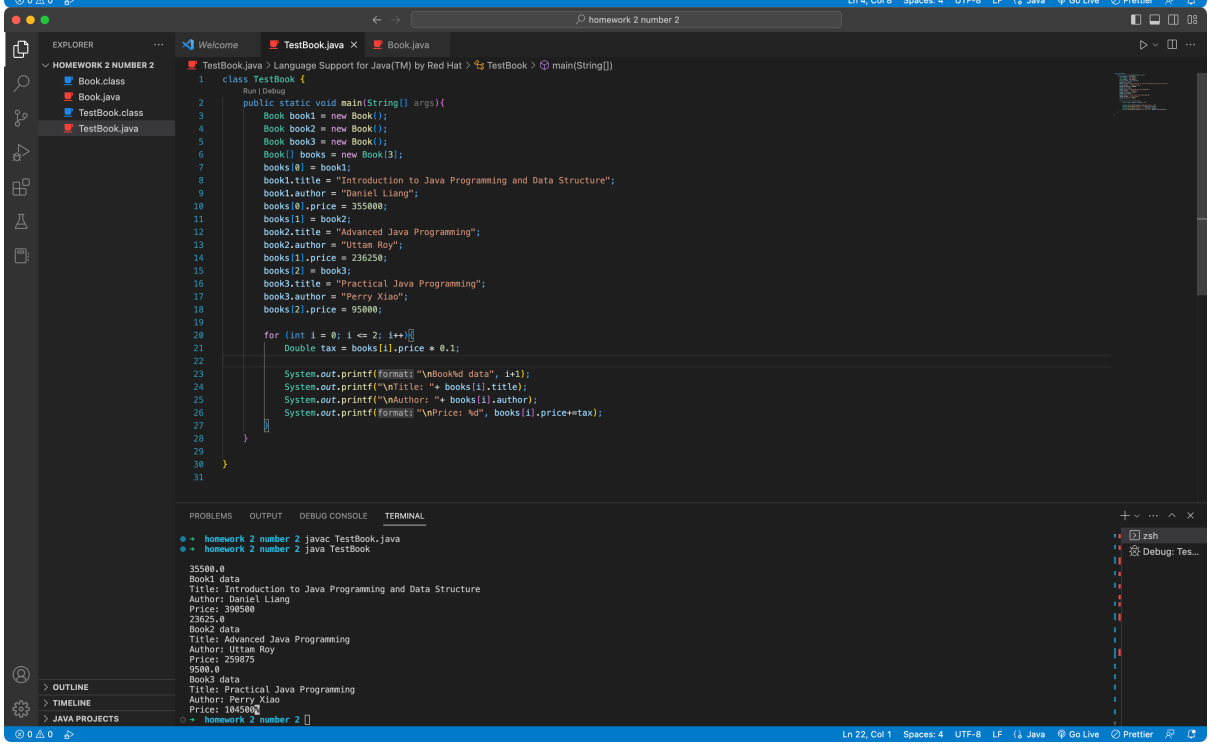

```
rects0
width: 0.7525165123242331
height: 0.9149202571004966
area: 0.6884926009280564
rects1
width: 0.8422018148930199
height: 0.14385556579740022
area: 0.12115541859703272
rects2
width: 0.906562922673842
height: 0.7082458561020032
area: 0.6420694332794693
rects3
width: 0.10502475101496977
height: 0.3000533369273387
area: 0.03151302700200458
rects4
width: 0.9341820812503412
height: 0.3401820224862653
area: 0.3177919497016967
rects5
width: 0.9407282678145293
height: 0.829963137194617
area: 0.7807697844030046
rects6
width: 0.06107063120872169
height: 0.16646511627756911
area: 0.010166129725304398
rects7
width: 0.14705628196199805
height: 0.2857488464811154
area: 0.0420211629384426
rects8
width: 0.5595319461647948
height: 0.4275750279425181
area: 0.2392418875161437
rects9
width: 0.52552173225256566
height: 0.2855332349756937
area: 0.15005392026010542
➜  homework 2
```

1.4


homework 2
EXPLORER
HOMEWORK 2
Rectangle.class
Rectangle.java
TestRectangle.class
TestRectangle.java
TestRectangle.java
Rectangle.java
TestRectangle.java > Java Language Support > TestRectangle > main
rects[8] = rect8;
rects[9] = rect9;
for (int i = 0; i <= 9; i++){
rects[i].width = Math.random();
rects[i].height = Math.random();
// System.out.printf("\nrect"+i);
// System.out.printf("\nwidth: "+ rects[i].width);
// System.out.printf("\nheight: "+ rects[i].height);
// System.out.printf("\narea: "+ rects[i].height*rects[i].width);
}
double smallest = rects[0].width*rects[0].height;
double largest = rects[0].width*rects[0].height;
double largestWidth = rects[0].width;
double largestHeight = rects[0].height;
double smallestWidth = rects[0].width;
double smallestHeight = rects[0].height;
for (int i = 0; i <= 9; i++){
if (rects[i].width*rects[i].height < smallest) {
smallest = rects[i].width*rects[i].height;
smallestWidth = rects[i].width;
smallestHeight = rects[i].height;
}
if (rects[i].width*rects[i].height > largest) {
largest = rects[i].width*rects[i].height;
largestWidth = rects[i].width;
largestHeight = rects[i].height;
}
}
System.out.printf("\nsmallest area: "+ smallest);
System.out.printf("\nsmallest width: "+ smallestWidth);
System.out.printf("\nsmallest width: "+ smallestHeight);
System.out.printf("\nlargest area: "+ largest);
System.out.printf("\nlargest width: "+ largestWidth);
System.out.printf("\nlargest height: "+ largestHeight);
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
smallest area: 0.008407508948438766
largest area: 0.43379677335633726
homework 2 javac TestRectangle.java
homework 2 java TestRectangle
smallest area: 0.04564300134949707
smallest width: 0.11049602168667405
smallest width: 0.41307370756680983
largest area: 0.7528176622917736
largest width: 0.8793955955502651
largest height: 0.8560625799140058
homework 2
zsh
Run: TestR...
Debug: Tes...
OUTLINE
TIMELINE
JAVA PROJECTS
Ln 51, Col 47
Spaces: 4
UTF-8
LF
Java
Go Live
Prettier

2


homework 2 number 2
EXPLORER
HOMEWORK 2 NUMBER 2
Book.class
Book.java
TestBook.class
TestBook.java
Welcome
TestBook.java
Book.java
Book.java > Language Support for Java(TM) by Red Hat > Book > price
1 public class Book {
2 String title;
3 String author;
4 int price;
5 }
6
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
homework 2 number 2 javac TestBook.java
homework 2 number 2 java TestBook
35500.0
Book1 data
Title: Introduction to Java Programming and Data Structure
Author: Daniel Liang
Price: 390500
23625.0
Book2 data
Title: Advanced Java Programming
Author: Uttam Roy
Price: 259075
9500.0
Book3 data
Title: Practical Java Programming
Author: Perry Xiao
Price: 104500
homework 2 number 2
OUTLINE
TIMELINE
JAVA PROJECTS
zsh
Debug: Tes...
Ln 4, Col 8
Spaces: 4
UTF-8
LF
Java
Go Live
Prettier


homework 2 number 2
EXPLORER
HOMEWORK 2 NUMBER 2
Book.class
Book.java
TestBook.class
TestBook.java
Welcome
TestBook.java
Book.java
TestBook.java > Language Support for Java(TM) by Red Hat > TestBook > main(String[])
1 class TestBook {
Run | Debug
2 public static void main(String[] args){
3 Book book1 = new Book();
4 Book book2 = new Book();
5 Book book3 = new Book();
6 Book[] books = new Book[3];
7 books[0] = book1;
8 book1.title = "Introduction to Java Programming and Data Structure";
9 book1.author = "Daniel Liang";
10 books[0].price = 355000;
11 books[1] = book2;
12 book2.title = "Advanced Java Programming";
13 book2.author = "Uttam Roy";
14 books[1].price = 236250;
15 books[2] = book3;
16 book3.title = "Practical Java Programming";
17 book3.author = "Perry Xiao";
18 books[2].price = 95000;
19
20 for (int i = 0; i <= 2; i++){
21 Double tax = books[i].price * 0.1;
22
23 System.out.printf(format: "\nBook%d data", i+1);
24 System.out.printf("\nTitle: "+ books[i].title);
25 System.out.printf("\nAuthor: "+ books[i].author);
26 System.out.printf(format: "\nPrice: %d", books[i].price+tax);
27 }
28 }
29
30 }
31
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
homework 2 number 2 javac TestBook.java
homework 2 number 2 java TestBook
35500.0
Book1 data
Title: Introduction to Java Programming and Data Structure
Author: Daniel Liang
Price: 390500
23625.0
Book2 data
Title: Advanced Java Programming
Author: Uttam Roy
Price: 259075
9500.0
Book3 data
Title: Practical Java Programming
Author: Perry Xiao
Price: 104500
homework 2 number 2
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JAVA PROJECTS
zsh
Debug: Tes...
Ln 22, Col 1
Spaces: 4
UTF-8
LF
Java
Go Live
Prettier