

JAVA LAB - 5

C:\Users> student > Desktop > TM24CS314 > Books.java > java > Book

```
3  class Book {
4
42  // toString() method to display complete details
43  public String toString() {
44      return "Book Details:\n" +
45              "Name: " + name + "\n" +
46              "Author: " + author + "\n" +
47              "Price: Rs " + price + "\n" +
48              "Number of Pages: " + numPages;
49  }
50  }
51
52  public class Books {
53      Run main | Debug main | Run | Debug
54      public static void main(String[] args) {
55          Scanner scanner = new Scanner(System.in);
56
57          System.out.print(s:"Enter the number of books: ");
58          int n = scanner.nextInt();
59          scanner.nextLine(); // Consume newline
60
61          // Create an array to store n book objects
62          Book[] books = new Book[n];
63
64          // Input details for each book
65          for (int i = 0; i < n; i++) {
66              System.out.println("\nEnter details for Book " + (i + 1) + ":");
67              books[i] = new Book(name:"", author:"", price:0.0, numPages:0);
68              books[i].setDetails();
69          }
70
71          // Display details of all books
72          System.out.println(x:"\n=== Basic Details of All Books ===");
73          for (int i = 0; i < n; i++) {
74              System.out.println("\nBook " + (i + 1) + ":");
75              books[i].getDetails();
76          }
77
78          // Display complete details using toString()
79          System.out.println(x:"\n=== Complete Details of All Books ===");
80          for (int i = 0; i < n; i++) {
81              System.out.println("\nBook " + (i + 1) + ":\n" + books[i].toString());
82          }
83      }
84  }
```

```

34     while (true) {
35         System.out.println(x:"\n=== MAIN MENU ===");
36         System.out.println(x:"Select shape:");
37         System.out.println(x:"1. Rectangle");
38         System.out.println(x:"2. Triangle");
39         System.out.println(x:"3. Circle");
40
41         System.out.print(s:"Enter your choice: ");
42         n = sn.nextInt();
43
44         switch (n) {
45             case 1:
46                 System.out.print(s:"Enter length: ");
47                 r.a = sn.nextDouble();
48                 System.out.print(s:"Enter breadth: ");
49                 r.b = sn.nextDouble();
50                 r.printArea();
51                 break;
52
53             case 2:
54                 System.out.print(s:"Enter base: ");
55                 t.a = sn.nextDouble();
56                 System.out.print(s:"Enter height: ");
57                 t.b = sn.nextDouble();
58                 t.printArea();
59                 break;
60
61             case 3:
62                 System.out.print(s:"Enter radius: ");
63                 c.a = sn.nextDouble();
64                 c.printArea();
65                 break;
66
67
68
69             default:
70                 System.out.println(x:"Invalid input. Try again!");
71         }
72     }
73 }
74 }
75

```

```
\workspaceStorage\b3d7508adb296428211f7a8444eaf8a\redhat.java\jdt_ws\jdt.ls-ja  
Enter the number of books: 1
```

```
Enter details for Book 1:  
Enter book name: java basics  
Enter author name: alex  
Enter price: 501  
Enter number of pages: 6000
```

```
=== Basic Details of All Books ===
```

```
Book 1:  
Book Name: java basics  
Author: alex  
Price: Rs 501.0  
Number of Pages: 6000
```

```
=== Complete Details of All Books ===
```

```
Book 1:  
Book Details:  
Name: java basics  
Author: alex  
Price: Rs 501.0  
Number of Pages: 6000  
PS C:\Users\student\Desktop\1BF24CS321> 
```

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```

2
3 class Student {
4     private String name;
5     private int age;
6     private String course;
7
8     Student(String name, int age, String course) {
9         this.name = name;
10        this.age = age;
11        this.course = course;
12    }
13
14    public String toString() {
15        return "Student Details [Name: " + name + ", Age: " + age + ", Course: " + course + "]";
16    }
17 }
18
19 public class ToStringExample {
20     Run main | Debug main | Run | Debug
21     public static void main(String[] args) {
22         Student s1 = new Student(name:"Alice", age:20, course:"Computer Science");
23         Student s2 = new Student(name:"Bob", age:22, course:"Electronics");
24
25         // Implicit call to toString()
26         System.out.println(s1);
27         System.out.println(s2);
28
29         // Explicit call to toString()
30         System.out.println("Explicit call: " + s1.toString());
31     }
32 }
33

```

```

41
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45         "Name: " + name + "\n" +
46         "Author: " + author + "\n" +
47         "Price: Rs " + price + "\n" +
48         "Number of Pages: " + numPages;
49 }
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52 public class Books {
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68             books[i].setDetails();
69         }
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72         System.out.println(x:"\n=== Basic Details of All Books ===");
73         for (int i = 0; i < n; i++) {
74             System.out.println("\nBook " + (i + 1) + ":");
75             books[i].getDetails();
76         }

```

```
workspace\storage-10507-10508\25072021\745744\src\main\java\juc\ms\juc\13_java_project\bin -rest:ing
Student Details [Name: Alice, Age: 20, Course: Computer Science]
Student Details [Name: Bob, Age: 22, Course: Electronics]
Explicit call: Student Details [Name: Alice, Age: 20, Course: Computer Science]
PS C:\Users\student\Desktop\1BF24CS321>
```

```
Student@251a69d7
Student@7344699f
PS C:\Users\student\Desktop\1BF24CS321>
```