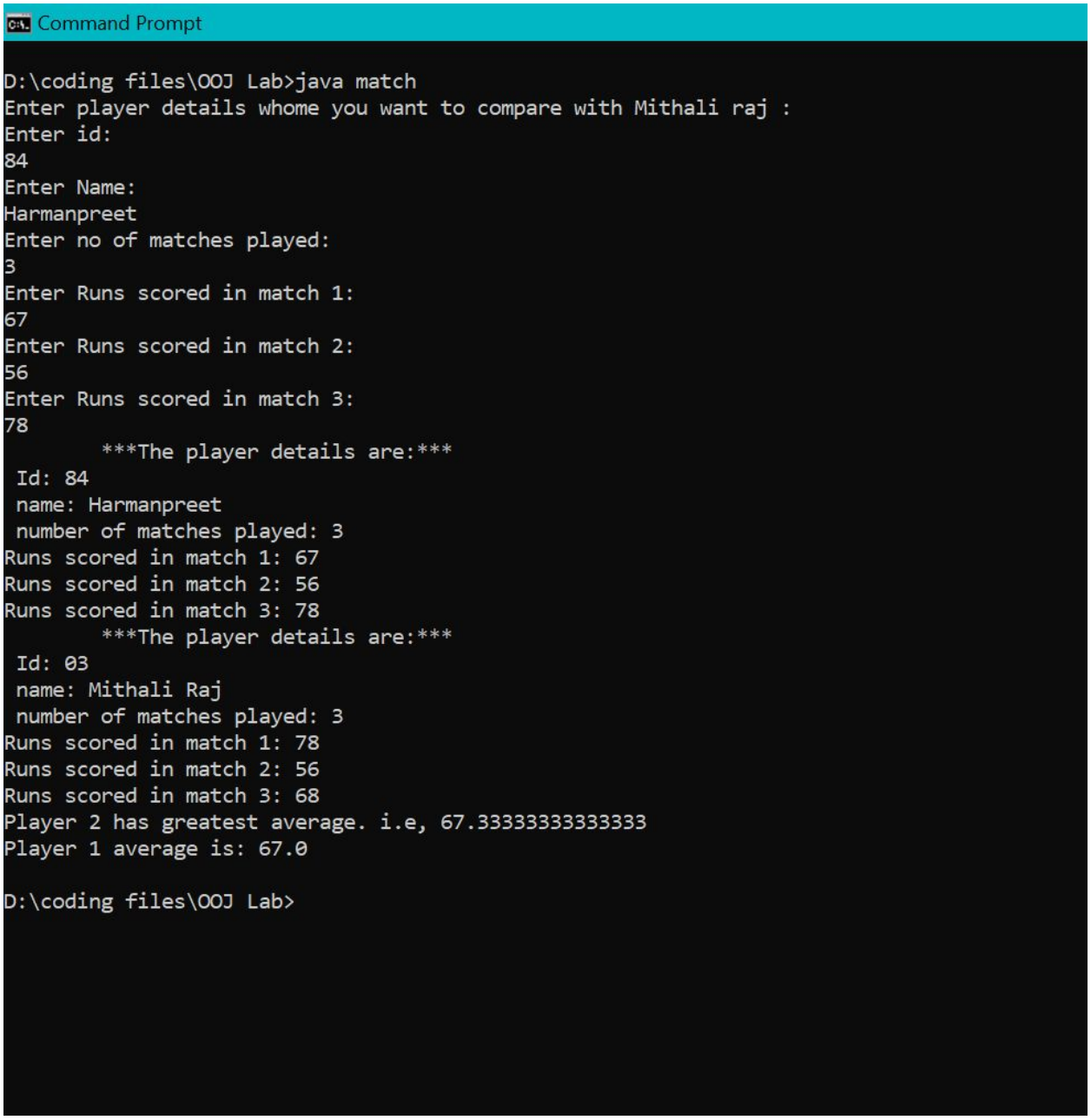
PRACTICE - 4

1---
/*Develop a Java program to create a class Player with variables id, name, scores, no_matches_played with default access specifier. Include the following:
a. Constructors
b. appropriate methods that calculates the average scores of the player and displays the same.
Create two player objects and display the player details who has the greater average score
*/

```
import java.util.Scanner;
class Player{
   String id;
   String name;
   int[] runs;
   int no_matches_played;

   Player(){}

   Player(String id1, String name1, int[] runs1, int n){
      id = id1;
      name = name1;
      runs = runs1;
      no_matches_played = n;
   }
   void getDetails(){
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter player details whome you want to compare with Mithali raj :");
      System.out.println("Enter id:");
      id = sc.next();
      System.out.println("Enter Name:");
      name = sc.next();
      System.out.println("Enter no of matches played:");
      no_matches_played = sc.nextInt();
      runs = new int[no_matches_played];
      for(int i = 0; i < no_matches_played; i++){
         System.out.println("Enter Runs scored in match " + (i+1) + ":");
         runs[i] = sc.nextInt();
      }
   }
   void printDetails(){
      System.out.println("\t***The player details are:***");
```

```
        System.out.println(" Id: " + id + "\n name: " + name + "\n number of matches played: " +
no_matches_played);
        for(int i=0;i<no_matches_played;i++){
            System.out.println("Runs scored in match " + (i+1) +": " + runs[i]);
        }
    }
    double avg(){
        int scoreSum = 0;
        for(int i=0;i<no_matches_played;i++){
            scoreSum += runs[i];
        }
        return (scoreSum/(no_matches_played + 0.0));
    }
}
class match {
    public static void main(String[] args){
        int[] run = {78,56,68};
        double p1avg, p2avg;
        Player p1 = new Player();
        Player p2 = new Player("03", "Mithali Raj", run,  3);
        p1.getDetails();
        p1avg = p1.avg();
        p2avg = p2.avg();
        p1.printDetails();
        p2.printDetails();
        if(p1avg > p2avg){
            System.out.println("Player 1 has greatest average. i.e, " + p1avg + "\nPlayer 2 average
is: " + p2avg);
        }
        else if(p2avg > p1avg){
            System.out.println("Player 2 has greatest average. i.e, " + p2avg + "\nPlayer 1 average
is: " + p1avg);
        }
        else{
            System.out.println("Both player 1 and 2 have equal average. " + "\nPlayer 1 average is: "
+ p1avg + "\nPlayer 2 average is: " + p2avg);
        }
    }
}
```


Command Prompt
D:\coding files\OOJ Lab>java match
Enter player details whome you want to compare with Mithali raj :
Enter id:
84
Enter Name:
Harmanpreet
Enter no of matches played:
3
Enter Runs scored in match 1:
67
Enter Runs scored in match 2:
56
Enter Runs scored in match 3:
78
The player details are:
Id: 84
name: Harmanpreet
number of matches played: 3
Runs scored in match 1: 67
Runs scored in match 2: 56
Runs scored in match 3: 78
The player details are:
Id: 03
name: Mithali Raj
number of matches played: 3
Runs scored in match 1: 78
Runs scored in match 2: 56
Runs scored in match 3: 68
Player 2 has greatest average. i.e, 67.33333333333333
Player 1 average is: 67.0
D:\coding files\OOJ Lab>

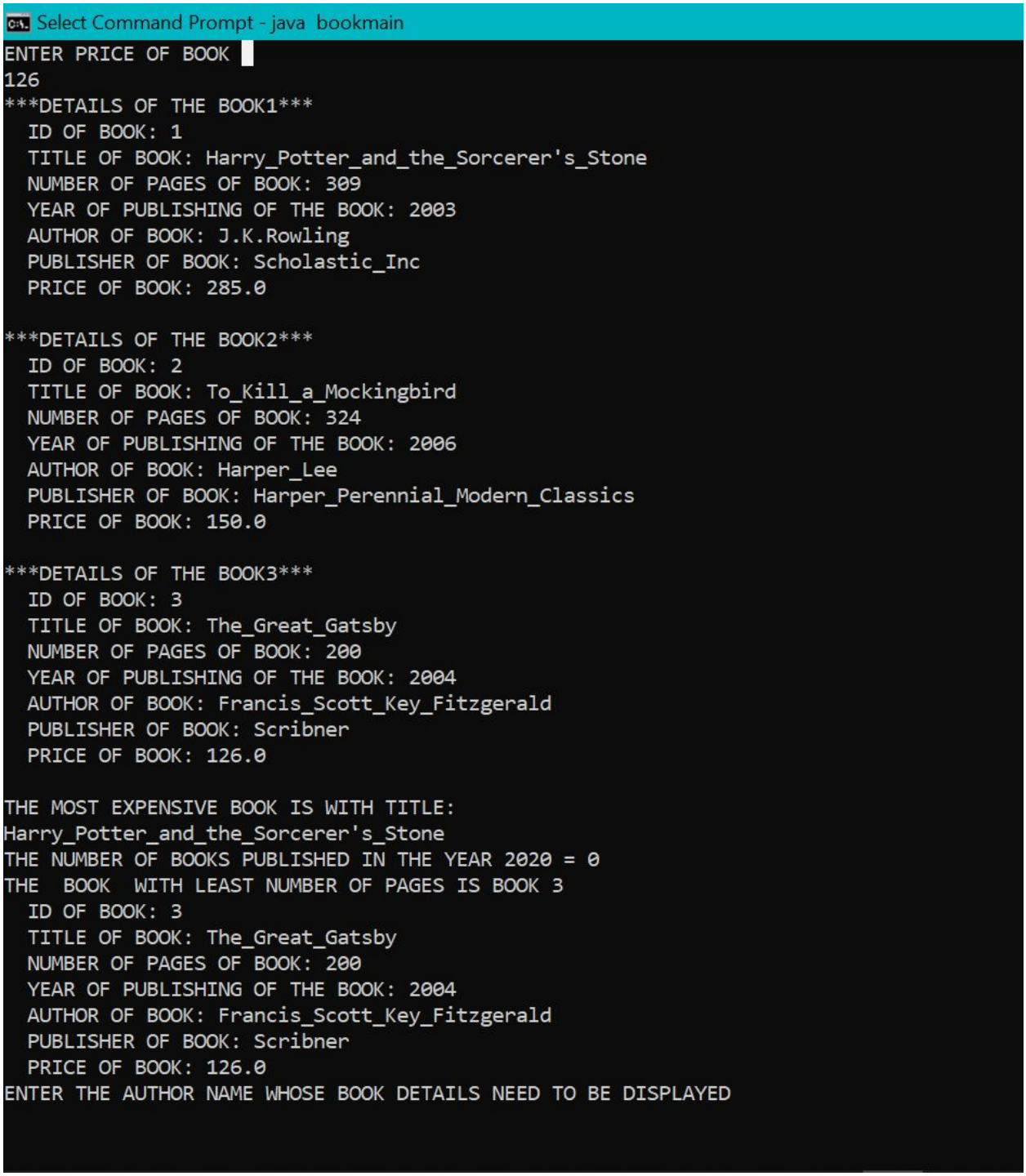
```
/*
Develop a Java program to create a class Book with members – bookid, booktitle,
no_of_pages, year_of_pub, author, publisher and price. Create three objects of book
class. Include methods in Book class that do the following:
a. Accepting the book details
b. Displaying the book details
c. Accept the author name and display the book details.
d. Display the booktitle of the most expensive book
e. Display the count of the books published in the year 2020.
f. Display the book details of the book with the least number of pages.
*/

import java.util.Scanner;
class Book
{
   private int id;
   private String title;
   private int nop;
   private int year;
   private String auth;
   private String pub;
   private double p;
   void getdetails()
   {
      Scanner s=new Scanner(System.in);
      System.out.println("ENTER ID OF BOOK");
      id=s.nextInt();
      System.out.println("ENTER THE TITLE OF BOOK");
      title=s.next();
      System.out.println("ENTER NUMBER OF PAGES OF BOOK");
      nop=s.nextInt();
      System.out.println("ENTER YEAR OF PUBLISHING OF THE BOOK");
      year=s.nextInt();
      System.out.println("ENTER AUTHOR OF BOOK");
      auth=s.next();
      System.out.println("ENTER PUBLISHER OF BOOK");
      pub=s.next();
      System.out.println("ENTER PRICE OF BOOK");
      p=s.nextDouble();
   }
   void printdetails()
   {
      System.out.println("  ID OF BOOK: "+id);
      System.out.println("  TITLE OF BOOK: "+title);
```

```
        System.out.println("  NUMBER OF PAGES OF BOOK: "+nop);
        System.out.println("  YEAR OF PUBLISHING OF THE BOOK: "+year);
        System.out.println("  AUTHOR OF BOOK: "+auth);
        System.out.println("  PUBLISHER OF BOOK: "+pub);
        System.out.println("  PRICE OF BOOK: "+p);
    }
    double price()
    {
        return p;
    }
    void displaybooktitle()
    {
        System.out.println(title);
    }
    int year()
    {
        return year;
    }
    int pages()
    {
        return nop;
    }
    String author()
{
   return auth;
}
}
class bookmain
{
    public static void main(String args[])
    {
        int c=0;
        Book b1=new Book();
        Book b2=new Book();
        Book b3=new Book();
        b1.getdetails();
        b2.getdetails();
        b3.getdetails();
        System.out.println("***DETAILS OF THE BOOK1***");
        b1.printdetails();
        System.out.println("\n***DETAILS OF THE BOOK2***");
        b2.printdetails();
        System.out.println("\n***DETAILS OF THE BOOK3***");
        b3.printdetails();
```

```
        if(b1.price()>=b2.price() && b1.price()>=b3.price())
        {
        System.out.println("\nTHE MOST EXPENSIVE BOOK IS WITH TITLE:  ");
        b1.displaybooktitle();
        }
        else if(b2.price()>=b1.price() && b2.price()>=b3.price())
        {
        System.out.println("THE MOST EXPENSIVE BOOK IS WITH TITLE:  ");
        b2.displaybooktitle();
        }
        else
        {
        System.out.println("THE MOST EXPENSIVE BOOK IS WITH TITLE:  ");
        b3.displaybooktitle();
        }
        if(b1.year()==2020)
        c++;
        if(b2.year()==2020)
        c++;
        if(b3.year()==2020)
        c++;
        System.out.println("THE NUMBER OF BOOKS PUBLISHED IN THE YEAR 2020 = "+c);
        if(b1.pages()<=b2.price() && b1.price()<=b3.price())
       {
        System.out.println("THE  BOOK  WITH LEAST NUMBER OF PAGES IS BOOK 1 ");
        b1.printdetails();
        }
        else if(b2.pages()<=b1.pages() && b2.pages()<=b3.pages())
        {
        System.out.println("THE  BOOK  WITH LEAST NUMBER OF PAGES IS BOOK 2 ");
        b2.printdetails();
        }
        else
        {
           System.out.println("THE  BOOK  WITH LEAST NUMBER OF PAGES IS BOOK 3 ");
           b3.printdetails();
        }
     System.out.println("ENTER THE AUTHOR NAME WHOSE BOOK DETAILS NEED TO BE
DISPLAYED");
     Scanner s1=new Scanner(System.in);
     String auth1=s1.next();
     if(auth1.compareToIgnoreCase(b1.author())==0)
     b1.printdetails();
    else if(auth1.compareToIgnoreCase(b2.author())==0)
```

```
    b2.printdetails();
   else if(auth1.compareToIgnoreCase(b3.author())==0)
    b3.printdetails();
    else
      System.out.println("THE GIVEN AUTHOR'S BOOK IS NOT FOUND");
}
}
```


Command Prompt - java bookmain
D:\coding files\OOJ Lab>java bookmain
ENTER ID OF BOOK
1
ENTER THE TITLE OF BOOK
Harry_Potter_and_the_Sorcerer's_Stone
ENTER NUMBER OF PAGES OF BOOK
309
ENTER YEAR OF PUBLISHING OF THE BOOK
2003
ENTER AUTHOR OF BOOK
J.K.Rowling
ENTER PUBLISHER OF BOOK
Scholastic_Inc
ENTER PRICE OF BOOK
285
ENTER ID OF BOOK
2
ENTER THE TITLE OF BOOK
To_Kill_a_Mockingbird
ENTER NUMBER OF PAGES OF BOOK
324
ENTER YEAR OF PUBLISHING OF THE BOOK
2006
ENTER AUTHOR OF BOOK
Harper_Lee
ENTER PUBLISHER OF BOOK
Harper_Perennial_Modern_Classics
ENTER PRICE OF BOOK
150
ENTER ID OF BOOK
3
ENTER THE TITLE OF BOOK
The_Great_Gatsby
ENTER NUMBER OF PAGES OF BOOK
200
ENTER YEAR OF PUBLISHING OF THE BOOK
2004
ENTER AUTHOR OF BOOK
Francis_Scott_Key_Fitzgerald
ENTER PUBLISHER OF BOOK
Scribner
ENTER PRICE OF BOOK


Select Command Prompt - java bookmain
ENTER PRICE OF BOOK
126
DETAILS OF THE BOOK1
ID OF BOOK: 1
TITLE OF BOOK: Harry_Potter_and_the_Sorcerer's_Stone
NUMBER OF PAGES OF BOOK: 309
YEAR OF PUBLISHING OF THE BOOK: 2003
AUTHOR OF BOOK: J.K.Rowling
PUBLISHER OF BOOK: Scholastic_Inc
PRICE OF BOOK: 285.0
DETAILS OF THE BOOK2
ID OF BOOK: 2
TITLE OF BOOK: To_Kill_a_Mockingbird
NUMBER OF PAGES OF BOOK: 324
YEAR OF PUBLISHING OF THE BOOK: 2006
AUTHOR OF BOOK: Harper_Lee
PUBLISHER OF BOOK: Harper_Perennial_Modern_Classics
PRICE OF BOOK: 150.0
DETAILS OF THE BOOK3
ID OF BOOK: 3
TITLE OF BOOK: The_Great_Gatsby
NUMBER OF PAGES OF BOOK: 200
YEAR OF PUBLISHING OF THE BOOK: 2004
AUTHOR OF BOOK: Francis_Scott_Key_Fitzgerald
PUBLISHER OF BOOK: Scribner
PRICE OF BOOK: 126.0
THE MOST EXPENSIVE BOOK IS WITH TITLE:
Harry_Potter_and_the_Sorcerer's_Stone
THE NUMBER OF BOOKS PUBLISHED IN THE YEAR 2020 = 0
THE BOOK WITH LEAST NUMBER OF PAGES IS BOOK 3
ID OF BOOK: 3
TITLE OF BOOK: The_Great_Gatsby
NUMBER OF PAGES OF BOOK: 200
YEAR OF PUBLISHING OF THE BOOK: 2004
AUTHOR OF BOOK: Francis_Scott_Key_Fitzgerald
PUBLISHER OF BOOK: Scribner
PRICE OF BOOK: 126.0
ENTER THE AUTHOR NAME WHOSE BOOK DETAILS NEED TO BE DISPLAYED

```
  PRICE OF BOOK: 285.0

***DETAILS OF THE BOOK2***
  ID OF BOOK: 2
  TITLE OF BOOK: To_Kill_a_Mockingbird
  NUMBER OF PAGES OF BOOK: 324
  YEAR OF PUBLISHING OF THE BOOK: 2006
  AUTHOR OF BOOK: Harper_Lee
  PUBLISHER OF BOOK: Harper_Perennial_Modern_Classics
  PRICE OF BOOK: 150.0

***DETAILS OF THE BOOK3***
  ID OF BOOK: 3
  TITLE OF BOOK: The_Great_Gatsby
  NUMBER OF PAGES OF BOOK: 200
  YEAR OF PUBLISHING OF THE BOOK: 2004
  AUTHOR OF BOOK: Francis_Scott_Key_Fitzgerald
  PUBLISHER OF BOOK: Scribner
  PRICE OF BOOK: 126.0

THE MOST EXPENSIVE BOOK IS WITH TITLE:
Harry_Potter_and_the_Sorcerer's_Stone
THE NUMBER OF BOOKS PUBLISHED IN THE YEAR 2020 = 0
THE  BOOK  WITH LEAST NUMBER OF PAGES IS BOOK 3
  ID OF BOOK: 3
  TITLE OF BOOK: The_Great_Gatsby
  NUMBER OF PAGES OF BOOK: 200
  YEAR OF PUBLISHING OF THE BOOK: 2004
  AUTHOR OF BOOK: Francis_Scott_Key_Fitzgerald
  PUBLISHER OF BOOK: Scribner
  PRICE OF BOOK: 126.0
ENTER THE AUTHOR NAME WHOSE BOOK DETAILS NEED TO BE DISPLAYED
Harper_Lee
  ID OF BOOK: 2
  TITLE OF BOOK: To_Kill_a_Mockingbird
  NUMBER OF PAGES OF BOOK: 324
  YEAR OF PUBLISHING OF THE BOOK: 2006
  AUTHOR OF BOOK: Harper_Lee
  PUBLISHER OF BOOK: Harper_Perennial_Modern_Classics
  PRICE OF BOOK: 150.0

D:\coding files\OOJ Lab>
```