OOJ lab exercise - 2

→ *) Extra programs :-

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 same.

Create two player objects and display the player details who has the greater average score.

→

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

Player() { }
```

```
Player(String id1, String name1, int scores1[],
                                    int n)
{
    id = id1;
    name = name1;
    scores = scores1;
    no_matches_played = n;
}
void getDetails(){
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter player details:");
    System.out.println("Enter ID:");
    id = sc.next();
System.out.println("Enter name:");
    name = sc.next();
System.out.println("Enter number of matches played:");
    no_matches_played = sc.nextInt();
    scores = new int[no_matches_played];
    for(int i=0; i<no_matches_played; i++){
System.out.println("Enter score of match "+(i+1)+":");
```

```
            scores[i] = sc.nextInt();
        }
    }

    void printDetails(){
System.out.println("\n The player details are :");
System.out.println("ID: " + id + "\n Name :" + name +
                    "\n No of matches played :"
                    + no_matches_played);
    for (int i=0; i< no_matches_played; i++)
    {
        System.out.println("The score of the match
"+(i+1)+": " + scores[i]);
    }
}

    double avg(){
    int scoresum=0;
    for(int i=0; i<no_matches_played; i++){
        scoresum += score[i];
    }
```

```
        return (scoresum/(no_matches_played+0.0));
    }
}

public class Playermain{
public static void main(String args[]){
    int[] score = {3,4,7};
    double p1avg, p2avg;
    Player p1 = new Player();
Player p2 = new Player("123", "Rahul", score, 3);
    p1.getDetails();
  p1.avg = p1.avg();
    p2.avg = p2.avg();
    p1.printDetails();
    p2.printDetails();
System.out.println("The Average score of Player1
                is " + p1avg);
System.out.println("The Average score of Player2
                is " + p2.avg);
```

```
if (p1avg > p2avg)
{
System.out.println("\nPlayer1 has the greatest
average score.");
        p1.printDetails();
    }
    else if (p2avg > p1avg){
System.out.println("\n Player 2 has the
greatest average score.");
        p2.printDetails();
    }
    else {
System.out.println("\n Both player1 and
player2 have equal average score:");
        p1.printDetails();
        p2.printDetails();
    }
}
```

(1) 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.*;
class Book {
    int bookid;
    String booktitle;
    int no_of_pages;
    int year_of_pub;
```

```
String author;
String publisher;
double price;

void accept()
{
    Scanner s=new Scanner(System.in);
System.out.println("\n Enter the book details :");
System.out.println("Enter Book ID:");
    bookid = s.nextInt();
System.out.println("Enter Book title:");
    booktitle=s.next();
System.out.println("Enter number of pages of the
        book:");
    no_of_pages = s.nextInt();
System.out.println("Enter year of publication of the
        book:");
    year_of_pub=s.nextInt();
System.out.println("Enter the name of author of
        the book:");
    author=s.next();
System.out.println("Enter the publisher name of
the book:");
```

```
        publisher = s.next();
    System.out.println("Enter price of the book:");
        price = s.nextInt();
    }
    void display()
    {
    System.out.println("\n The book details are as
below:");
    System.out.println("The Book ID:" + bookid);
    System.out.println("The Book title:" + booktitle);
    System.out.println("The number of pages of the book
                        :"+no_of_pages);
    System.out.println("The year of publication of the
book:" + year_of_pub);
    System.out.println("The name of author of the book:"
                                    +author);
    System.out.println("The name of the publisher name of
the book:" + publisher);
      System.out.println("The price of the book:"+price);
    }
}
```

```
class BookMain {
    public static void main(String ss[]){
        Scanner s= new Scanner(System.in);
        String authorname;
        boolean i,j,k;
        int n=0;
    Book b1= new Book();
     b1.accept();
     Book b2= new Book();
     b2.accept();
     Book b3 =new Book;
     b3.accept();
     b1.display();
     b2.display();
     b3.display();
System.out.println("\n Enter the author name:");
     authorname = s.next();
      i= authorname.equals(b1.author);
      j= authorname.equals(b2.author);
      k= authorname.equals(b3.author);
```

```
if(i==true)
{
System.out.println("\n The details of the book written by "+authorname+" are as follows:");
b1.display();
}
if(j==true)
{
System.out.println("\n The details of the book written by "+authorname+" are as follows:");
b2.display();
}
if(k==true)
{
System.out.println("\n The details of the book written by "+authorname+" are as follows:");
b3.display();
}
if((b1.price>b2.price)&&(b1.price>b3.price))
System.out.println("\n The most expensive among the three is "+b1.booktitle);
```

```
if ((b2.price > b1.price) && (b2.price > b3.price))
System.out.println("\n The most expensive book among the three is "+b2.booktitle);
if ((b3.price > b1.price) && (b3.price > b2.price))
System.out.println("\n The title of the most expensive book among the three is "+b3.booktitle);
if (b1.year_of_pub == 2020)
    n++;
if (b2.year_of_pub == 2020)
    n++;
if (b3.year_of_pub == 2020)
    n++;
System.out.println("\n Number of book published in the year 2020 are "+n);
if ((b1.no_of_pages < b2.no_of_pages) && (b1.no_of_pages
                                          < b3.no_of_pages))
{
System.out.println("\n The details of the book with the least number of pages among the three are as follows:");
```

```
        b1.display();
    }
    if((b2.no_of_pages<b1.no_of_pages)&&(b2.no_of_pages
                <b3.no_of_pages))
    {
     System.out.println("The details of the book
with the least number of pages among the
three are as follows:");
        b2.display();
    }
    if((b3.no_of_pages<b1.no_of_pages)&&(b3.no_of_pages
                <b2.no_of_pages))
    {
      System.out.println("The details of the book with
the least number of pages among the three
are as follows:");
        b3.display();
    }
  }
}
```