Lab 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 the same.

```java
import java.util.Scanner;

class Player{

    String id;

    String name;

    int[] scores;

    int no;


    Player(){}


    Player(String id1, String name1, int[] scores1, int n){

        id = id1;

        name = name1;

        scores = scores1;

        no = n;

    }


    void printDetails(){

        System.out.println("The player details are:");

        System.out.println("id: " + id + "   Name: " + name + "   No of matches played: " + no);

        System.out.println("Scores: ");

        for(int i = 0; i < no; i++){

            System.out.print(scores[i]+" ");

        }

    }

    double avg(){

        int scoreSum = 0;

        for(int i = 0; i < no; i++){

            scoreSum += scores[i];
```

```java
        }
        return (scoreSum / (no+ 0.0));
    }
}



class play  {
    public static void main(String[] args){
        int[] score1 = {54,1,58,4,52,78};
        int[] score2 = {15,23,33};
        double p1avg, p2avg;
        Player p1 = new Player("a11","Dev",score1,6);
        Player p2 = new Player("cr17", "Virat", score2,  3);


        p1avg = p1.avg();
        p2avg = p2.avg();
        p1.printDetails();
        p2.printDetails();
        if (p1avg > p2avg){
            System.out.println("Player 1 has greatest average. i.e, " + p1avg + "player 2 average is: " + p2avg);
        }
        else if(p2avg > p1avg){
            System.out.println("Player 2 has greatest average. i.e, " + p2avg + "player 1 average is: " + p1avg);
        }
        else{
            System.out.println("Both player 1 and 2 have equal average. " + " player 1 average is: " + p1avg + " player 2 average is: " + p2avg);
        }
    }
}
```
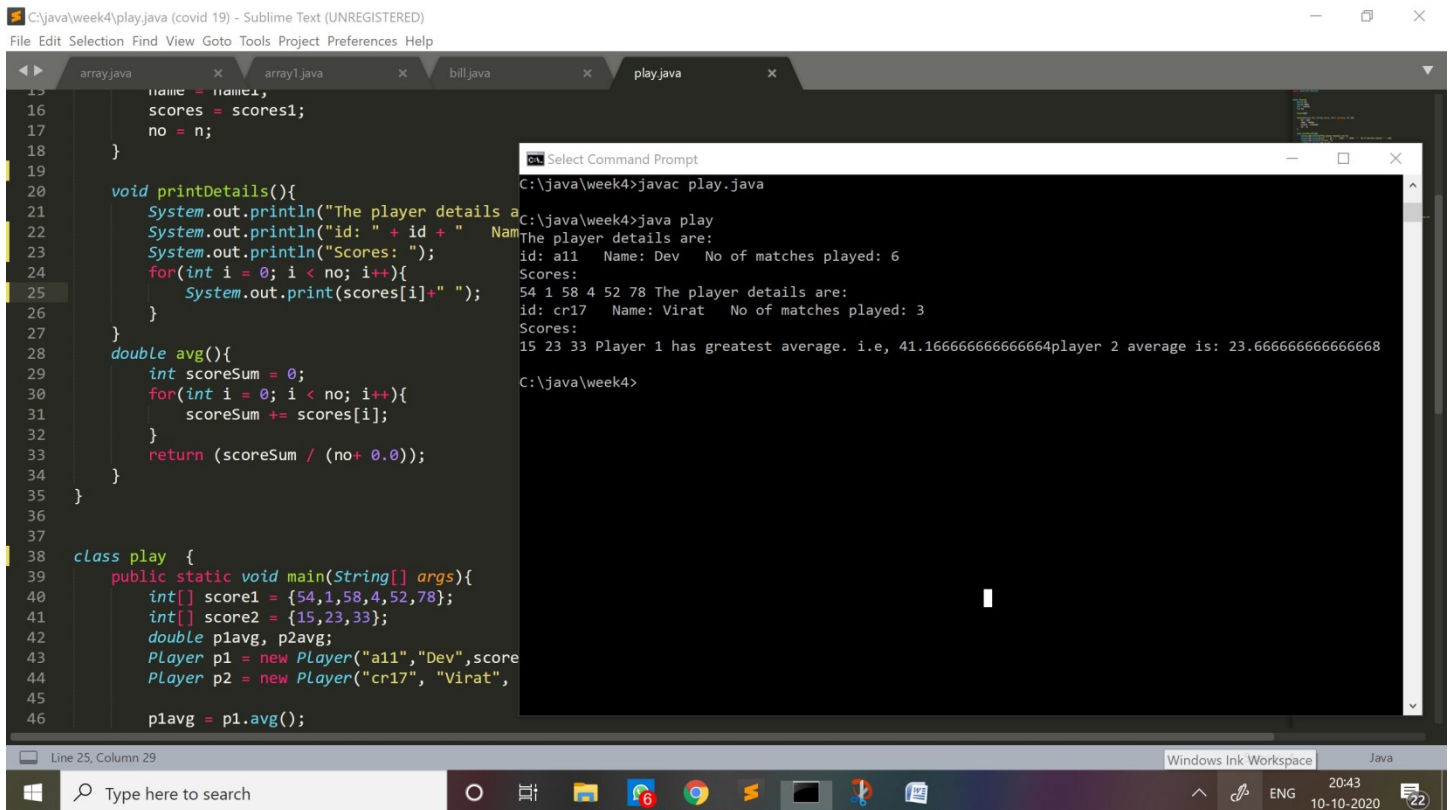
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```
15         name = name1;
16         scores = scores1;
17         no = n;
18     }
19
20     void printDetails(){
21         System.out.println("The player details a
22         System.out.println("id: " + id + "    Nam
23         System.out.println("Scores: ");
24         for(int i = 0; i < no; i++){
25             System.out.print(scores[i]+" ");
26         }
27     }
28     double avg(){
29         int scoreSum = 0;
30         for(int i = 0; i < no; i++){
31             scoreSum += scores[i];
32         }
33         return (scoreSum / (no+ 0.0));
34     }
35 }
36
37
38 class play  {
39     public static void main(String[] args){
40         int[] score1 = {54,1,58,4,52,78};
41         int[] score2 = {15,23,33};
42         double p1avg, p2avg;
43         Player p1 = new Player("a11","Dev",score
44         Player p2 = new Player("cr17", "Virat",
45
46         p1avg = p1.avg();
```

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```
C:\java\week4>javac play.java

C:\java\week4>java play
The player details are:
id: a11    Name: Dev    No of matches played: 6
Scores:
54 1 58 4 52 78 The player details are:
id: cr17    Name: Virat    No of matches played: 3
Scores:
15 23 33 Player 1 has greatest average. i.e, 41.166666666666664player 2 average is: 23.666666666666668

C:\java\week4>
```

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2. import java.util.Scanner;

class Book{

   private String bookid;

   private String booktitle;

   private int no_of_pages;

   private int year_of_pub;

   private String author;

   private String publisher;

   private double price;

   Scanner sc = new Scanner(System.in);

   void getDetails(){

      System.out.print("Enter book id:");

      bookid = sc.nextLine();

      System.out.print("Enter book title:");

      booktitle = sc.nextLine();

      System.out.print("Enter no of pages:");

```java
        no_of_pages = sc.nextInt();

        System.out.print("Enter year of publication:");

        year_of_pub = sc.nextInt();

        System.out.print("Enter author name:");

        author = sc.nextLine();

        System.out.print("Enter publisher name:");

        publisher = sc.nextLine();

        System.out.print("Enter price:");

        price = sc.nextDouble();
    }


void printDetails(){

        System.out.println("Book Details:");

        System.out.println("Book ID: "+ bookid);

        System.out.println("Book title: "+ booktitle);

        System.out.println("No of pages: "+ no_of_pages);

        System.out.println("Year of publication: "+year_of_pub);

        System.out.println("Author: "+ author);

        System.out.println("Publisher: "+ publisher);

        System.out.println("Price: "+ price);


    }


String bookByAuthor(){

        return author;

    }


double expensive(){

        return price;

    }
```

```java
        int count(){

            return year_of_pub;

        }

        int pages(){

            return no_of_pages;

        }

}


public class mainbook{

    public static void main(String[] args){

    Book b1 = new Book();

    Book b2 = new Book();

    Book b3 = new Book();

    Scanner sc = new Scanner(System.in);

    System.out.println("\n\nBook 1");

    b1.getDetails();

    System.out.println("\n\nBook 2");

    b2.getDetails();

    System.out.println("\n\nBook 3");

    b3.getDetails();

    System.out.println("\n\nBook 1");

    b1.printDetails();

    System.out.println("\n\nBook 2");

    b2.printDetails();

    System.out.println("\n\nBook 3");

    b3.printDetails();


    String auth, bk1, bk2, bk3;

    System.out.println("\n\nEnter author name to find his book:");

    auth = sc.next();

    bk1 = b1.bookByAuthor();
```

```java
if (bk1.equals(auth)){

    b1.printDetails();

}

bk2 = b2.bookByAuthor();

if (bk2.equals(auth)){

    b2.printDetails();

}

bk3 = b3.bookByAuthor();

if (bk3.equals(auth)){

    b3.printDetails();

}


double p1, p2, p3;

p1 = b1.expensive();

p2 = b2.expensive();

p3 = b3.expensive();

System.out.println("\n\nThe details of most expensive book are:");

if(p1>p2){

    if(p1>p3){

        b1.printDetails();

    }

    else{

        b3.printDetails();

    }

}

else {

    if(p2>p3){

        b2.printDetails();

    }

    else{

        b3.printDetails();
```

```java
        }
    }


    int count = 0,c1, c2, c3;

    c1 = b1.count();

    if(c1==2020){

        count++;

    }

    c2 = b2.count();

    if(c2==2020){

        count++;

    }

    c3 = b3.count();

    if(c3==2020){

        count++;

    }

    System.out.println("\n\nno of books published in 2020: "+ count);


    int page, pg1, pg2, pg3;

    pg1=b1.pages();

    pg2=b2.pages();

    pg3=b3.pages();

    System.out.println("\n\nbook with least pages:");

    if(pg1<pg2){

        if(pg1<pg3){

            b1.printDetails();

        }

        else{

            b3.printDetails();

        }

    }
```

```
    else {

        if(pg2<pg3){

            b2.printDetails();

        }

        else{

            b3.printDetails();

        }

    }

}

}
```