

3) 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 calculate the average scores of the player and display the same.

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

```
> import java.util.Scanner;  
class Player{  
    Player(int id, String name, double scores,  
        int no_matches_played,  
        String name);  
    double scores, avg_scores;  
    Player(int id, String name, double scores,  
        int no_matches_played){  
        id=id;  
        name=name;  
        Scores=scores;  
        no_matches_played=no_matches_played;  
    }  
}
```

```
void avg_scores() {  
    averageScore = Scores / (double) no_of_matches;
```

```
System.out.println("The average score  
is: " + averageScore);
```

```
}
```

```
void display() {
```

```
    System.out.println("Name: " + name);
```

```
    System.out.println("ID: " + id);
```

```
    System.out.println("Score: " + scores);
```

```
    System.out.println("Number of matches  
played: " + no_of_matches_played);
```

```
System.out.printf("The Average Score: %.2f", averageScore);
```

```
}
```

```
class PlayerMain() {
```

```
    public static void main(String args[]) {  
        Player p1 = new Player(24, xyz, 59.7,  
        4);
```

```
        Player p2 = new Player(16, abc, 79.3, 6);
```

```
if(p1.avg_scores > p2.avg_scores)
```

```
    double avg1, avg2;
```

```
    System.out.println("Average of Player 1: ")
```

```
    avg1 = p1.avg_scores();
```

```
    System.out.println("Average of Player 2: ")
```

```
    avg2 = p2.avg_scores();
```

```
    System.out.println("The player with a  
greater average score is: ");
```

```
    if(avg1 > avg2)
```

```
        p1.printdata();
```

```
    else  
        p2.printdata();
```

```
}
```

```
}
```

student_sqpa.java X Player.java X

```
1 import java.util.Scanner;
2 class Player{
3     int id,no_matches_played;
4     String name;
5     double scores,average;
6     Player(int id1,String name1,double scores1,int no_matches_played1){
7         id=id1;
8         name=name1;
9         scores=scores1;
10        no_matches_played=no_matches_played1;
11    }
12    double avg_scores(){
13        average=scores/(double)no_matches_played;
14        System.out.println(average);
15        return average;
16    }
17    void printdata(){
18        System.out.println("Name:"+name);
19        System.out.println("ID:"+id);
20        System.out.println("Score:"+scores);
21        System.out.println("Number of matches played:"+no_matches_played);
22        System.out.printf("Average score=%2f",average);
23    }
24}
25 class Playermain{
26     public static void main(String args[]){
27         double avg1,avg2;
28         Player p1=new Player(34,"abc",456.6,5);
29         Player p2=new Player(21,"xyz",674.43,8);
30         System.out.println("Average of Player 1:");
31         avg1=p1.avg_scores();
32         System.out.println("Average of Player 2:");
33         avg2=p2.avg_scores();
34         System.out.println("The player with a greater average score is:");
35         if(avg1>avg2)
36             p1.printdata();
37         else
38             p2.printdata();
39     }
40 }
```

Select Command Prompt

```
C:\Program Files\Java\bin\basic>javac Player.java
C:\Program Files\Java\bin\basic>java Playermain
Average of Player 1:
91.32000000000001
Average of Player 2:
84.30375
The player with a greater average score is:
Name:abc
ID:34
Score:456.6
Number of matches played:5
Average score=91.32
C:\Program Files\Java\bin\basic>
```



⇒ Develop a Java program to create a class Book with members - book id, book title, no pages, year of pub, author, publisher, price. Create three objects of book class. Include methods in ~~class~~ Book class that do the following:-

- a) Accepting book details;
- b) Displaying the book details;
- c) Accept the authors name & display 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 detail of the book with the least number of pages.

⇒ import java.util.Scanner();
class Book {

```
int bookid, no_of_pages, year_of_pub;
String booktitle, author, publisher;
double price;
void getdata()
{
```

```
System.out.println("Enter book id : ");
Scanner s1 = new Scanner(System.in);
bookid = s1.nextInt();
System.out.println("Enter no of pages : ");
no_of_pages = s1.nextInt();
SOP("Enter the year of publication");
year_of_pub = s1.nextInt();
SOP("Enter book name and the author");
bookname = s1.nextLine();
author = s1.nextLine();
```

SOP ("Enter the publisher and price of book");

publisher = s1.next();

price = s1.nextDouble();

} void

~~double void~~ display() {

~~SOP("Display")~~

SOP("Book Name: " + booktitle);

SOP("Book ID: " + bookid);

SOP("Number of pages: " + no_of_pages);

SOP("Year of Publication: " + year_of_pub);

SOP("Author: " + author);

SOP("Publisher: " + publisher);

SOP("Price: " + price);

~~return price;~~

}

~~getTotal()~~

```
void authorname (String author){  
    if (authorname.equals(author))  
        display();
```

}

```
static String bookn_display (Book b1,  
    Book b2, Book b3) {  
    if (b1.price > b2.price && b1.price > b3.price)  
        return b1.booktitle;  
    else if (b2.price > b1.price && b2.price > b3.price)  
        return b2.booktitle;  
    else  
        return b3.booktitle;
```

}

~~static int count (Book b1, Book b2,
 Book b3) {~~

```
int k = 0;  
int count () {  
    if (year_of_pub == 2020)  
        return 1;  
    else  
        return 2;
```

}

~~static void leastpages (Book b1, Book b2,
 Book b3) {~~

```
if (b1.no_of_pages < b2.no_of_pages &&  
    b1.no_of_pages < b3.no_of_pages)  
    S.O.P ("The book with least no.of pages is");  
    b1.display();
```

3

```
else if (b2.no_of_pages < b1.no_of_pages &&  
    b2.no_of_pages < b3.no_of_pages)
```

```
{ SOP("The book with least no. of pages is");  
3 b2.display();  
else  
3 b3.display();  
3 }
```

class Bookmain{

```
public static void main (String args[]){  
String auth, most_mostexpensive;  
Book b1 = new Book();  
Book b2 = new Book();  
Book b3 = new Book();
```

```
Scanner ss = new Scanner(System.in);  
SOP("Enter details of book 1");  
b1.getdata();
```

```
SOP("Enter details of book 2");  
b2.getdata();
```

```
SOP("Enter details of book 3");  
b3.getdata();
```

```
SOP("Details of book 1");  
b1.display();
```

```
SOP("Details of book 2");  
b2.display();
```

```
SOP("Details of book 3");  
b3.display();
```

```
SOP("Enter Name of author whose book details  
is to be printed");
```

```
auth = ss.next();
```

```
b1.authorsname(auth);
```

```
b2.authorsname(auth);
```

```
b3.authorsname(auth);
```

```
most_expensive = Book.bookn_display(b1, b2, b3);  
SOP("The most expensive book is" + most_expensive);
```

SOPC "The count of the books published
in year 2020 is "+(b1.count() + b2.count() +
b3.count());

b1.lastPages(); b1, b2, b3);

3

3

```
student_sgpa.java x Player.java x bookdeets.java x
1 import java.util.Scanner;
2 class Book{
3     int bookid,no_of_pages,year_of_pub;
4     String booktitle,author,publisher;
5     double price;
6     Scanner ss=new Scanner(System.in);
7     void getdata(){
8         System.out.println("Enter the book name:");
9         booktitle=ss.next();
10        System.out.println("Enter the book ID and the number of pages:");
11        bookid=ss.nextInt();
12        no_of_pages=ss.nextInt();
13        System.out.println("Enter the year of publication and publisher of the book:");
14        year_of_pub=ss.nextInt();
15        publisher=ss.next();
16        System.out.println("Enter the name of the author and price of the book:");
17        author=ss.next();
18        price=ss.nextDouble();
19    }
20    void display(){
21        System.out.println("Book name:"+booktitle);
22        System.out.println("Book ID:"+bookid);
23        System.out.println("Number of pages: "+no_of_pages);
24        System.out.println("Author: "+author);
25        System.out.println("Publisher: "+publisher);
26        System.out.println("Year of publication: "+year_of_pub);
27        System.out.println("Price: "+price);
28    }
29    void authorname(String authorn){
30        if(authorn.equals(author))
31            display();
32    }
33    static String bookn_display(Book b1,Book b2,Book b3){
34        if(b1.price>b2.price&&b1.price>b3.price)
35            return b1.booktitle;
36        else if(b2.price>b1.price&&b2.price>b3.price)
37            return b2.booktitle;
38        else
39            return b3.booktitle;
40    }
41    int count(){
42        if(year_of_pub==2020)
43            return 1;
44        else
45            return 0;
}
```



```
student_sgpa.java x Player.java x bookdeets.java x
40
41     int count(){
42         if(year_of_pub==2020)
43             return 1;
44         else
45             return 0;
46     }
47     static void leastpages(Book b1,Book b2,Book b3){
48         if(b1.no_of_pages<=b2.no_of_pages&&b1.no_of_pages<=b3.no_of_pages){
49             System.out.println("The book with least number of pages is:");
50             b1.display();
51         }
52         else if(b2.no_of_pages<=b1.no_of_pages&&b2.no_of_pages<=b3.no_of_pages){
53             System.out.println("The book with least number of pages is:");
54             b2.display();
55         }
56         else
57             b3.display();
58     }
59 }
60 class Bookmain{
61     public static void main(String args[]){
62         String auth,most_expensive;
63         Book b1=new Book();
64         Book b2=new Book();
65         Book b3=new Book();
66         Scanner ss=new Scanner(System.in);
67         System.out.println("Enter the details of book1");
68         b1.getdata();
69         System.out.println();
70         System.out.println("Enter the details of book2");
71         b2.getdata();
72         System.out.println();
73         System.out.println("Enter the details of book3");
74         b3.getdata();
75         System.out.println();
76         System.out.println("Details of book1");
77         b1.display();
78         System.out.println();
79         System.out.println("Details of book2");
80         b2.display();
81         System.out.println();
82         System.out.println("Details of book3");
83         b3.display();
84         System.out.println();
```



```
student_sgpa.java      Player.java      bookdeets.java  
54             b2.display();  
55     }  
56     else  
57         b3.display();  
58     }  
59 }  
60 class Bookmain{  
61     public static void main(String args[]){  
62         String auth,most_expensive;  
63         Book b1=new Book();  
64         Book b2=new Book();  
65         Book b3=new Book();  
66         Scanner ss=new Scanner(System.in);  
67         System.out.println("Enter the details of book1");  
68         b1.getdata();  
69         System.out.println();  
70         System.out.println("Enter the details of book2");  
71         b2.getdata();  
72         System.out.println();  
73         System.out.println("Enter the details of book3");  
74         b3.getdata();  
75         System.out.println();  
76         System.out.println("Details of book1");  
77         b1.display();  
78         System.out.println();  
79         System.out.println("Details of book2");  
80         b2.display();  
81         System.out.println();  
82         System.out.println("Details of book3");  
83         b3.display();  
84         System.out.println();  
85         System.out.println("Enter the name of the author whose book details is to be printed");  
86         auth=ss.next();  
87         b1.authorname(auth);  
88         b2.authorname(auth);  
89         b3.authorname(auth);  
90         System.out.println();  
91         most_expensive=Book.bookn_display(b1,b2,b3);  
92         System.out.println("The most expensive book is:"+most_expensive);  
93         System.out.println("The count of the books published in the year 2020 is:"+(b1.count()+b2.count()+b3.count()));  
94         b1.leastpages(b1,b2,b3);  
95     }  
96 }  
97 }
```



```
student_sqpa.java x Player.java x bookdeets.java x
54
55
56
57
58
59
60 class Bookmain{
61     public static void main(String args[]){
62         String auth,most_expensive;
63         Book b1=new Book();
64         Book b2=new Book();
65         Book b3=new Book();
66         Scanner ss=new Scanner(System.in);
67         System.out.println("Enter the details of book1");
68         b1.getdata();
69         System.out.println();
70         System.out.println("Enter the details of book2");
71         b2.getdata();
72         System.out.println();
73         System.out.println("Enter the details of book1");
74         b3.getdata();
75         System.out.println();
76         System.out.println("Details of book1");
77         b1.display();
78         System.out.println();
79         System.out.println("Details of book2");
80         b2.display();
81         System.out.println();
82         System.out.println("Details of book3");
83         b3.display();
84         System.out.println();
85         System.out.println("Enter the name of the author whose book details are to be displayed");
86         auth=ss.next();
87         b1.authorname(auth);
88         b2.authorname(auth);
89         b3.authorname(auth);
90         System.out.println();
91         most_expensive=Book.bookn_display(b1,b2,b3);
92         System.out.println("The most expensive book is:"+most_expensive);
93         System.out.println("The count of the books published in the year 2020 is");
94         b1.leastpages(b1,b2,b3);
95     }
96 }
97 }
```

C:\Program Files\Java\bin\basic>javac bookdeets.java

```
C:\Program Files\Java\bin\basic>java Bookmain
Enter the details of book1
Enter the book name:
twinkle
Enter the book ID and the number of pages:
2983
345
Enter the year of publication and publisher of the book:
299
vogue
Enter the name of the author and price of the book:
deepak
3457

Enter the details of book2
Enter the book name:
Bella
Enter the book ID and the number of pages:
3457
2983
Enter the year of publication and publisher of the book:
2020
hg
Enter the name of the author and price of the book:
gf
45

Enter the details of book1
Enter the book name:
fr
Enter the book ID and the number of pages:
554
566
Enter the year of publication and publisher of the book:
2020
gr
Enter the name of the author and price of the book:
```



```
student_sqpa.java x Player.java x bookdeets.java
54
55
56
57
58
59
60 class Bookmain{
61     public static void main(String args[]){
62         String auth,most_expensive;
63         Book b1=new Book();
64         Book b2=new Book();
65         Book b3=new Book();
66         Scanner ss=new Scanner(System.in);
67         System.out.println("Enter the details of book1");
68         b1.getdata();
69         System.out.println();
70         System.out.println("Enter the details of book2");
71         b2.getdata();
72         System.out.println();
73         System.out.println("Enter the details of book1");
74         b3.getdata();
75         System.out.println();
76         System.out.println("Details of book1");
77         b1.display();
78         System.out.println();
79         System.out.println("Details of book2");
80         b2.display();
81         System.out.println();
82         System.out.println("Details of book3");
83         b3.display();
84         System.out.println();
85         System.out.println("Enter the name of the author whose book details is to be printed");
86         auth=ss.next();
87         b1.authorname(auth);
88         b2.authorname(auth);
89         b3.authorname(auth);
90         System.out.println();
91         most_expensive=Book.bookn_display(b1,b2,b3);
92         System.out.println("The most expensive book is:"+most_expensive);
93         System.out.println("The count of the books published in the year 2020 is:");
94         b1.leastpages(b1,b2,b3);
95     }
96
97 }
```

```
frr
Enter the book ID and the number of pages:
554
566
Enter the year of publication and publisher of the book:
2020
gr
Enter the name of the author and price of the book:
grg
4555

Details of book1
Book name:twinkle
Book ID:2983
Number of pages:345
Author:deepak
Publisher:vogue
Year of publication:299
Price:3457.0

Details of book2
Book name:Bella
Book ID:3457
Number of pages:2983
Author:gf
Publisher:hg
Year of publication:2020
Price:45.0

Details of book3
Book name:frr
Book ID:554
Number of pages:566
Author:grg
Publisher:gr
Year of publication:2020
Price:4555.0

Enter the name of the author whose book details is to be printed
grg
```



```
student_sqpa.java x Player.java x bookdeets.java
54
55
56
57
58
59
60 class Bookmain{
61     public static void main(String args[]){
62         String auth,most_expensive;
63         Book b1=new Book();
64         Book b2=new Book();
65         Book b3=new Book();
66         Scanner ss=new Scanner(System.in);
67         System.out.println("Enter the details of book1");
68         b1.getdata();
69         System.out.println();
70         System.out.println("Enter the details of book2");
71         b2.getdata();
72         System.out.println();
73         System.out.println("Enter the details of book1");
74         b3.getdata();
75         System.out.println();
76         System.out.println("Details of book1");
77         b1.display();
78         System.out.println();
79         System.out.println("Details of book2");
80         b2.display();
81         System.out.println();
82         System.out.println("Details of book3");
83         b3.display();
84         System.out.println();
85         System.out.println("Enter the name of the author whose book details");
86         auth=ss.next();
87         b1.authorname(auth);
88         b2.authorname(auth);
89         b3.authorname(auth);
90         System.out.println();
91         most_expensive=Book.bookn_display(b1,b2,b3);
92         System.out.println("The most expensive book is:"+most_expensive);
93         System.out.println("The count of the books published in the year 2020 is:");
94         b1.leastpages(b1,b2,b3);
95     }
96 }
97 }
```

Details of book2
Book name:Bella
Book ID:3457
Number of pages:2983
Author:gf
Publisher:hg
Year of publication:2020
Price:45.0

Details of book3
Book name:frr
Book ID:554
Number of pages:566
Author:grg
Publisher:gr
Year of publication:2020
Price:4555.0

Enter the name of the author whose book details is to be printed
grg

Book name:frr
Book ID:554
Number of pages:566
Author:grg
Publisher:gr
Year of publication:2020
Price:4555.0

The most expensive book is:frr
The count of the books published in the year 2020 is:2
The book with least number of pages is:

Book name:twinkle
Book ID:2983
Number of pages:345
Author:deepak
Publisher:vogue
Year of publication:299
Price:3457.0

