```
import java.util.Scanner;


class book
{
    String bookId,bookTitle,author,publisher;
    int noOfPages,yearOfPub;
    double price;
    Scanner get=new Scanner(System.in);
book()
    {
        String nul="unknown";
        bookId=nul;
        bookTitle=nul;
        author=nul;
        publisher=nul;
    }
void getBookInfo(int n)
    {
        System.out.printf("\n <-----Enter Book-%d Info----->",n+1);
        System.out.printf("\n Book Id: ");bookId=get.next();
        System.out.printf(" Book Title: ");bookTitle=get.next();
        System.out.printf(" Book Author: ");author=get.next();
        System.out.printf(" Book Publisher: ");publisher=get.next();
        System.out.printf(" Book Size: ");noOfPages=get.nextInt();
        System.out.printf(" Book Publication Year: ");yearOfPub=get.nextInt();
        System.out.printf(" Book Price: ");price=get.nextDouble();
        System.out.printf("\n <-----Book-%d Info Saved----->\n",n+1);
    }
void putBookInfo()
    {
        System.out.println("\n <-----Book Info----->");
        System.out.printf("\n Book Id: %s ",bookId);
        System.out.printf("\n Book Title: %s",bookTitle);
        System.out.printf("\n Book Author: %s",author);
        System.out.printf("\n Book Publisher: %s",publisher);
        System.out.printf("\n Book Size: %d",noOfPages);
        System.out.printf("\n Book Publication Year: %d",yearOfPub);
        System.out.printf("\n Book Price: %.3f",price);
        System.out.println("\n <-----End Of Book Info ----->");
    }
int bookByAuthor(String nameAuth)
    {
        if(author.equalsIgnoreCase(nameAuth))
            return 1;
        else
            return 0;
    }

}
class bookStore
{
    public static void main(String[] args)
    {
```

```
        int n;
        int option,choice,count,temp[];
        String authorName;
        Scanner get=new Scanner(System.in);
        book books[];
        System.out.printf("\n Enter the No. Of Books: ");
        n=get.nextInt();
        temp=new int[n];
        books=new book[n];
        for (int i=0;i<n ;i++ )
        books[i]=new book();

        System.out.println("\n <-----Enter Details----->");
        for (int i=0;i<n ;i++ )
        books[i].getBookInfo(i);



        do{
            System.out.printf("\n Enter the choice\n1.Display All Book Details.\n2.Search Book details by Author Name.");
            System.out.printf("\n3.Display Most Expensive Book Title.\n4.Display count of books published in a given year.");
            System.out.printf("\n5.Display Book Deatils with least No. of pages.\n6.Exit.\nChoice: ");
            choice=get.nextInt();

            switch(choice)
            {
                case 1:
                        System.out.println("\n <-----Books Detail----->");
                        for (int i=0;i<n ;i++ )
                        books[i].putBookInfo();
                        break;
                case 2: count=0;
                        System.out.printf("\n Enter The Author Name :");
                        authorName=get.next();
                        for (int i=0;i<n ;i++ )
                        {
                            if(books[i].bookByAuthor(authorName)==1)
                            {
                                temp[count]=i;
                                count++;
                            }

                        }
                        if(count>0)
                        {
                            System.out.printf("\n There is/are %d books by Author: %s ,their deatails are: \n",count,authorName);
                            for (int i=0;i<count ;i++ )
                             {
                                 books[temp[i]].putBookInfo();
                            }
```

```
                        }
                        else
                        System.out.printf("\n There Are no Books by Author %s available
\n",authorName);
                        break;
                case 3: count=0;
                        double max=books[0].price;
                        for (int i=1;i<n ;i++ )
                        {
                            if(books[i].price>max)
                            {
                                max=books[i].price;
                                count=i;
                            }
                        }
                        System.out.printf("\n The most expensive book is : %s  with price
%.3f",books[count].bookTitle,books[count].price);
                        break;
                case 4: count=0;
                        int year;
                        System.out.printf("\nEnter The year of publication: ");
                        year=get.nextInt();
                        for (int i=0;i<n ;i++ )
                        {
                            if(books[i].yearOfPub==year)
                            count++;
                        }
                        System.out.printf("\nThere are %d Book(/s) published in year %d
",count,year);
                        break;
                case 5: count=0;
                        int min=books[0].noOfPages;
                        for (int i=1;i<n ;i++ )
                        {
                            if(books[i].noOfPages<min)
                            {
                                min=books[i].noOfPages;
                                count=i;
                            }
                        }
                        System.out.printf("\n The deatils of book with least No. of pages is\n ");
                        books[count].putBookInfo();
                        break;
                case 6: System.exit(1);
                default:System.out.println("\nInput Error try Again!!");
            }
            System.out.printf("\nPress 1 to continue:");
            option=get.nextInt();
        }while(option==1);

    }


}
```

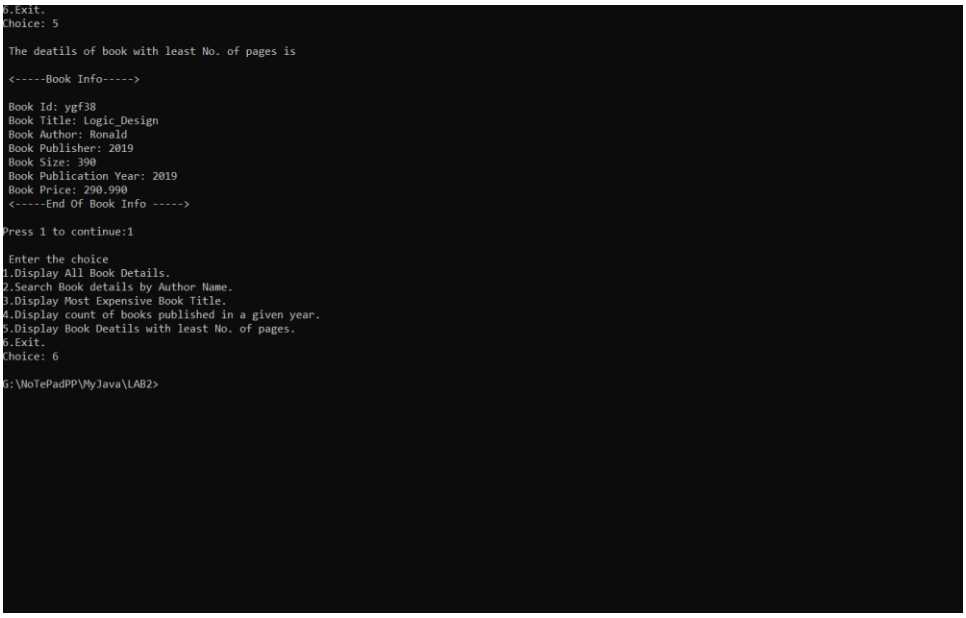
156.

```
G:\NoTePadPP\MyJava\LAB2>javac lab2e2.java

G:\NoTePadPP\MyJava\LAB2>java bookStore

 Enter the No. Of Books: 3

 <-----Enter Details----->

 <-----Enter Book-1 Info----->
 Book Id: g5g35
 Book Title: Data_Structures
 Book Author: Ronald
 Book Publisher: BMD
 Book Size: 780
 Book Publication Year: 2019
 Book Price: 988.99

 <-----Book-1 Info Saved----->

 <-----Enter Book-2 Info----->
 Book Id: ygf38
 Book Title: Logic_Design
 Book Author: Ronald
 Book Publisher: 2019
 Book Size: 390
 Book Publication Year: 2019
 Book Price: 290.99

 <-----Book-2 Info Saved----->

 <-----Enter Book-3 Info----->
 Book Id: f323ff
 Book Title: OOJ
 Book Author: paul
 Book Publisher: BMG
 Book Size: 980
 Book Publication Year: 2001
 Book Price: 200.99

 <-----Book-3 Info Saved----->

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
4.Display count of books published in a given year.
```

```
 <-----Book-3 Info Saved----->

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
4.Display count of books published in a given year.
5.Display Book Deatils with least No. of pages.
6.Exit.
Choice: 1

 <-----Books Detail----->

 <-----Book Info----->

 Book Id: g5g35
 Book Title: Data_Structures
 Book Author: Ronald
 Book Publisher: BMD
 Book Size: 780
 Book Publication Year: 2019
 Book Price: 988.990
 <-----End Of Book Info ----->

 <-----Book Info----->

 Book Id: ygf38
 Book Title: Logic_Design
 Book Author: Ronald
 Book Publisher: 2019
 Book Size: 390
 Book Publication Year: 2019
 Book Price: 290.990
 <-----End Of Book Info ----->

 <-----Book Info----->

 Book Id: f323ff
 Book Title: OOJ
 Book Author: paul
 Book Publisher: BMG
 Book Size: 980
 Book Publication Year: 2001
 Book Price: 200.990
 <-----End Of Book Info ----->

Press 1 to continue:1

 Enter the choice
```

```
Press 1 to continue:1

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
4.Display count of books published in a given year.
5.Display Book Deatils with least No. of pages.
6.Exit.
Choice: 2

 Enter The Author Name :ronald

 There is/are 2 books by Author: ronald ,their deatails are:

 <-----Book Info----->

 Book Id: g5g35
 Book Title: Data_Structures
 Book Author: Ronald
 Book Publisher: BMD
 Book Size: 780
 Book Publication Year: 2019
 Book Price: 988.990
 <-----End Of Book Info ----->

 <-----Book Info----->

 Book Id: ygf38
 Book Title: Logic_Design
 Book Author: Ronald
 Book Publisher: 2019
 Book Size: 390
 Book Publication Year: 2019
 Book Price: 290.990
 <-----End Of Book Info ----->

Press 1 to continue:1

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
4.Display count of books published in a given year.
5.Display Book Deatils with least No. of pages.
6.Exit.
Choice: 3
```

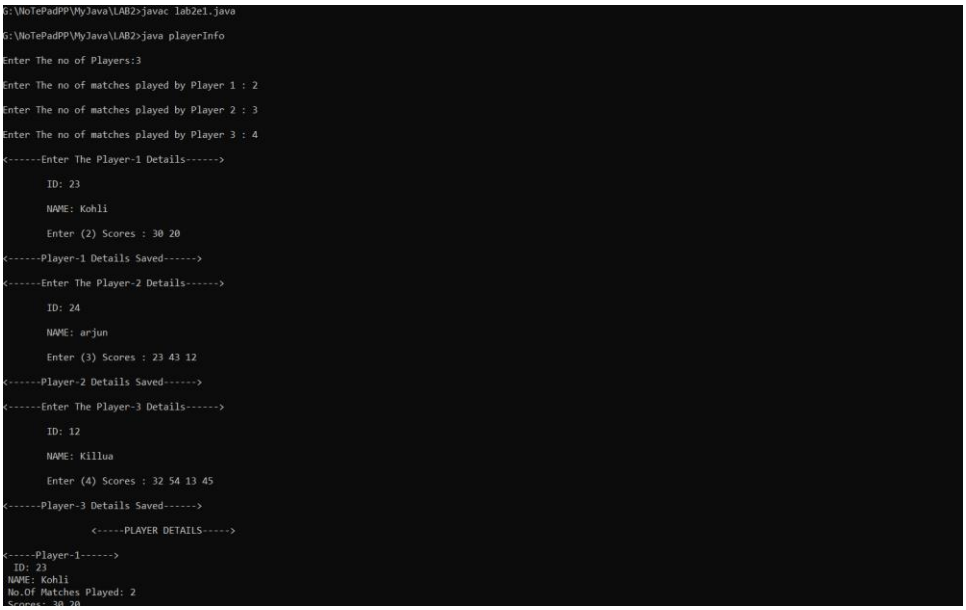
```
5.Display Book Deatils with least No. of pages.
6.Exit.
Choice: 3

 The most expensive book is : Data_Structures  with price 988.990
Press 1 to continue:1

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
4.Display count of books published in a given year.
5.Display Book Deatils with least No. of pages.
6.Exit.
Choice: 4

Enter The year of publication: 2019

There are 2 Book(/s) published in year 2019
Press 1 to continue:1

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
4.Display count of books published in a given year.
5.Display Book Deatils with least No. of pages.
6.Exit.
Choice: 5

 The deatils of book with least No. of pages is

 <-----Book Info----->

 Book Id: ygf38
 Book Title: Logic_Design
 Book Author: Ronald
 Book Publisher: 2019
 Book Size: 390
 Book Publication Year: 2019
 Book Price: 290.990
 <-----End Of Book Info ----->

Press 1 to continue:1

 Enter the choice
1.Display All Book Details.
2.Search Book details by Author Name.
3.Display Most Expensive Book Title.
```




```
1.  import java.util.Scanner;
2.
3.  class player{
4.      private int id;
5.      String name;
6.      private int scores[];
7.      private double averageScore;
8.      private  int matchesPlayed;
9.      Scanner get = new Scanner(System.in);
10. player(int n)
11.     {
12.         System.out.printf("\nEnter The no of matches played by Player %d : ",n+1);
    matchesPlayed=get.nextInt();
13.         scores=new int[matchesPlayed];
14.         averageScore=0;
15.     }
16. public void getPlayerInfo(int n)
17.     {
18.         System.out.printf("\n<------Enter The Player-%d Details------>\n",n+1);
19.         System.out.printf("\n\tID: ");  id=get.nextInt();
20.         System.out.printf("\n\tNAME: ");    name=get.next();
21.         System.out.printf("\n\tEnter (%d) Scores : ",matchesPlayed);
22.         for (int i=0;i<matchesPlayed ;i++ )
23.         {
24.             scores[i]=get.nextInt();
25.         }
26.         System.out.printf("\n<------Player-%d Details Saved------>\n",n+1);
27.     }
28. public double averageCalculation()
29.     {
```

```
30.         int scoreSum=0;
31.         for (int i=0;i<matchesPlayed ;i++ )
32.         scoreSum+=scores[i];
33.         averageScore=scoreSum/(double)matchesPlayed;
34.         return averageScore;
35.
36.     }
37. public void putPlayerInfo()
38.     {
39.
40.         System.out.println(" ID: "+id+"\n NAME: "+name+"\n No.Of Matches Played: "+
    matchesPlayed);
41.         System.out.printf(" Scores: ");
42.         for (int i=0;i<matchesPlayed ;i++ )
43.             System.out.printf("%d ",scores[i]);
44.         System.out.printf("\n Average Score: %.2f",averageScore);
45.     }
46.
47. }
48.
49. class playerInfo
50. {
51.     public static void main(String[] args)
52.     {
53.         int n,flag;double aveScore[];
54.         player p[];
55.         Scanner get = new Scanner(System.in);
56.         System.out.printf("\nEnter The no of Players:");
57.         n=get.nextInt();
58.         p=new player[n];
59.         aveScore=new double[n];
60.         for (int i=0;i<n ;i++ )
61.         {
62.              p[i]=new player(i);
63.         }
64.         for (int i=0;i<n ;i++ )
65.         {
66.              p[i].getPlayerInfo(i);
67.         }
68.         for (int i=0;i<n ;i++ )
69.         {
70.              aveScore[i]=p[i].averageCalculation();
71.         }
72.         System.out.println("\n\t\t<-----PLAYER DETAILS----->");
73.         for (int i=0;i<n ;i++ )
74.         {
75.              System.out.printf("\n<-----Player-%d------>\n ",i+1);
76.              p[i].putPlayerInfo();
77.         }
78.         flag=display(aveScore,n);
79.         System.out.println("\n\n<-----Details Of Player with Highest Score----->>");
80.         p[flag].putPlayerInfo();
81.
82.     }
```

```
    static int display(double ave[],int n)
    {
        int flag=0;
        double max=ave[0];
        for (int i=1;i<n ;i++ )
        {
             if(ave[i]>max)
             {
                max=ave[i];
                flag=i;
             }

        }
        return flag;
    }
}
```



```
        NAME: Killua

        Enter (4) Scores : 32 54 13 45

<------Player-3 Details Saved------>

                <-----PLAYER DETAILS----->

<-----Player-1------>
  ID: 23
 NAME: Kohli
 No.Of Matches Played: 2
 Scores: 30 20
 Average Score: 25.00
<-----Player-2------>
  ID: 24
 NAME: arjun
 No.Of Matches Played: 3
 Scores: 23 43 12
 Average Score: 26.00
<-----Player-3------>
  ID: 12
 NAME: Killua
 No.Of Matches Played: 4
 Scores: 32 54 13 45
 Average Score: 36.00

<-----Details Of Player with Highest Score----->>
 ID: 12
 NAME: Killua
 No.Of Matches Played: 4
 Scores: 32 54 13 45
 Average Score: 36.00
G:\NoTePadPP\MyJava\LAB2>
```