```java
import java.util.Scanner;

class player
{ int id;
  String name;
  int scores[];
  int no_matches_played;

  void player()
  {
    id=0;
    name="unknown";
    scores= new int[1];
    scores[0]=1;
    no_matches_played=0;
  }
  void getplayer()
  { Scanner get= new Scanner(System.in);
    System.out.println("Enter\nId:");
    id=get.nextInt();
    System.out.println("Name:");
    name=get.next();
    System.out.println("No of Matches Played:");
    no_matches_played=get.nextInt();
    scores= new int[no_matches_played];
    System.out.println("Scores:");
    for(int i=0;i<no_matches_played;i++)
      scores[i]=get.nextInt();
  }
   void calcavg()
  { int sum=0;
    double avg;
    if(no_matches_played>0)
    { for(int i=0;i<no_matches_played;i++)
       sum=sum+scores[i];
      avg=sum/no_matches_played;
      System.out.println("AVERAGE SCORE: "+avg);
    }
    else
      System.out.println("AVERAGE SCORE: 0");
  }
  void display()
  { System.out.println("\nID: "+id);
    System.out.println("NAME: "+name);
    System.out.println("NO OF MATCHES: "+no_matches_played);
    System.out.println("SCORES: ");
    for(int i=0;i<no_matches_played;i++)
      System.out.println(scores[i]+"\t");
    calcavg();
  }
}

class PlayerMain
{ public static void main(String args[])
  { System.out.println("Enter the details of the player:\n");

    player p=new player();
    p.getplayer();

    p.display();
  }
}
```

```
D:\Java\jdk1.8.0_261\bin\prog>set path="D:\Java\jdk1.8.0_261\bin"

D:\Java\jdk1.8.0_261\bin\prog>javac PlayerMain.java

D:\Java\jdk1.8.0_261\bin\prog>java PlayerMain
Enter the details of the player:

Enter
Id:
01
Name:
a
No of Matches Played:
3
Scores:
100
65
15

ID: 1
NAME: a
NO OF MATCHES: 3
SCORES:
100
65
15
AVERAGE SCORE: 60.0

D:\Java\jdk1.8.0_261\bin\prog>
```

```java
import java.util.Scanner;

class book
{ int bookid, no_of_pages, year_of_pub, price;
   String booktitle,author,publisher;

   void getdetails()
   { Scanner get=new Scanner(System.in);
      System.out.println("ID:");
      bookid=get.nextInt();
      System.out.println("TITLE:");
      booktitle=get.next();
      System.out.println("AUTHOR:");
      author=get.next();
      System.out.println("PUBLISHER:");
      publisher=get.next();
      System.out.println("YEAR OF PUBLISHING:");
      year_of_pub=get.nextInt();
      System.out.println("PRICE:");
      price=get.nextInt();
      System.out.println("PAGES:");
      no_of_pages=get.nextInt();
   }

   void disp()
   { System.out.println("ID: "+bookid);
      System.out.println("TITLE: "+booktitle);
      System.out.println("AUTHOR: "+author);
      System.out.println("PUBLISHER: "+publisher);
      System.out.println("YEAR OF PUBLISHING: "+year_of_pub);
      System.out.println("PRICE: "+price);
      System.out.println("PAGES: "+no_of_pages);
      }
   int getid()
   { return bookid;}
   String getAuthor()
   { return author; }
```

```java
37          { return author; }
38          int getprice()
39          {return price;}
40          int getyear()
41          { return year_of_pub;}
42          int getpages()
43          { return no_of_pages;}
44          String gettitle()
45          { return booktitle;}
46
47      }
48
49      class BookMain
50      { public static void main(String args[])
51          { Scanner get=new Scanner(System.in);
52            int n,ch;
53            System.out.println("Enter the no of books:\n");
54            n= get.nextInt();
55            book b[]=new book[n];
56            for(int i=0;i<n;i++)
57            { b[i]=new book();
58              b[i].getdetails();
59              }
60
61            do
62            { System.out.println("1. Display Book details.\n2.Find Book by Author\n3.Title of Most Expensive Book\n4.Find Book by Year\n5.Least no of Pages Bo
63              ch=get.nextInt();
64              int temp,c=-1;
65              String atemp;
66              switch(ch)
67              { case 1: int id;
68                        System.out.println("Enetr id of book to be diplayed:");
69                        id=get.nextInt();
70                        for(int i=0;i<n;i++)
71                        { temp=b[i].getid();
72                          if(temp==id)
73                          { b[i].disp();
```

```java
73                          { b[i].disp();
74                            break;}
75                          }
76                        break;
77                case 2: String author;
78                        System.out.println("Enter author of books to be diplayed:");
79                        author=get.next();
80                        for(int i=0;i<n;i++)
81                        { atemp=b[i].getAuthor();
82                          if(atemp==author)
83                          { b[i].disp(); }
84                        }
85                        break;
86                case 3: int price=0;
87                        String title;
88                        for(int i=0;i<n;i++)
89                        { if(price<b[i].getprice())
90                          { price=b[i].getprice();
91                            c=i; }
92                        }
93                        System.out.println(b[c].booktitle);
94                        break;
95                case 4: int year;
96                        System.out.println("Enetr the year of publishing:");
97                        year=get.nextInt();
98                        for(int i=0;i<n;i++)
99                        { temp=b[i].getyear();
100                         if(temp==year)
101                         { b[i].disp(); }
102                       }
103                       break;
104               case 5: int pages=100000;
105                       for(int i=0;i<n;i++)
106                       { if(pages>b[i].getpages())
107                         { pages=b[i].getpages();
108                           c=i;}
109                       }
```

```java
                { atemp=b[i].getAuthor();
                  if(atemp==author)
                  { b[i].disp(); }
                }
                break;
        case 3: int price=0;
                String title;
                for(int i=0;i<n;i++)
                { if(price<b[i].getprice())
                  { price=b[i].getprice();
                    c=i; }
                }
                System.out.println(b[c].booktitle);
                break;
        case 4: int year;
                System.out.println("Enetr the year of publishing:");
                year=get.nextInt();
                for(int i=0;i<n;i++)
                { temp=b[i].getyear();
                  if(temp==year)
                  { b[i].disp(); }
                }
                break;
        case 5: int pages=100000;
                for(int i=0;i<n;i++)
                { if(pages>b[i].getpages())
                  { pages=b[i].getpages();
                    c=i;}
                }
                b[c].disp();
                break;
        default: if(ch!=6)
                 {System.out.println("Invalid Option");}
      }
    }while(ch!=6);
  }
}
```

```
D:\Java\jdk1.8.0_261\bin\prog>java BookMain
Enter the no of books:

2
ID:
1
TITLE:
a
AUTHOR:
a
PUBLISHER:
a
YEAR OF PUBLISHING:
2000
PRICE:
2
PAGES:
23
ID:
2
TITLE:
b
AUTHOR:
b
PUBLISHER:
b
YEAR OF PUBLISHING:
2000
PRICE:
2
PAGES:
21
1. Display Book details.
```

```
1. Display Book details.
2.Find Book by Author
3.Title of Most Expensive Book
4.Find Book by Year
5.Least no of Pages Book
6.Exit
1
Enetr id of book to be diplayed:
2
ID: 2
TITLE: b
AUTHOR: b
PUBLISHER: b
YEAR OF PUBLISHING: 2000
PRICE: 2
PAGES: 21
1. Display Book details.
2.Find Book by Author
3.Title of Most Expensive Book
4.Find Book by Year
5.Least no of Pages Book
6.Exit
2
Enter author of books to be diplayed:
b
1. Display Book details.
2.Find Book by Author
3.Title of Most Expensive Book
4.Find Book by Year
5.Least no of Pages Book
6.Exit
3
ID: 1
```

```
1. Display Book details.
2.Find Book by Author
3.Title of Most Expensive Book
4.Find Book by Year
5.Least no of Pages Book
6.Exit
3
ID: 1
TITLE: a
AUTHOR: a
PUBLISHER: a
YEAR OF PUBLISHING: 2000
PRICE: 2
PAGES: 23
1. Display Book details.
2.Find Book by Author
3.Title of Most Expensive Book
4.Find Book by Year
5.Least no of Pages Book
6.Exit
4
Enetr the year of publishing:
2000
ID: 1
TITLE: a
AUTHOR: a
PUBLISHER: a
YEAR OF PUBLISHING: 2000
PRICE: 2
PAGES: 23
ID: 2
TITLE: b
AUTHOR: b
```