

Extra Questions:

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.

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

CODE:

```
import java.util.*;
class Player {
    String id;
    String name;
    int scores[];
    int no_matches_played;
    Player() {}

    void accept()
    {
        Scanner s=new Scanner(System.in);
        System.out.println("Enter the Player details:");
        System.out.println("ID:");
        id=s.next();
        System.out.println("Name:");
        name=s.next();
        System.out.println("Number of matches played:");
        no_matches_played=s.nextInt();
        scores=new int[no_matches_played];
        for(int i=0;i<no_matches_played;i++)
        {
            System.out.println("Enter the score in match "+(i+1)+" :");
            scores[i]=s.nextInt();
        }
    }

    void display()
    {
        System.out.println("Player details with greater average score:");
        System.out.println("ID: "+id);
        System.out.println("Name: "+name);
    }
}
```

```

        System.out.println("Number of matches played: "+no_matches_played);
        for(int i=0;i<no_matches_played;i++)
        {
            System.out.println("Score in match "+(i+1)+"-"+scores[i]);
        }
    }
    double calculate(){
        int sum=0;
        for(int i=0;i<no_matches_played;i++)
        {
            sum=sum+scores[i];
        }
        return (double)sum/no_matches_played;
    }
}

class Plymain {
    public static void main(String ss[]) {
        Player p1=new Player();
        p1.accept();
        Player p2=new Player();
        p2.accept();
        if(p1.calculate()>p2.calculate())
        {
            p1.display();
            System.out.println("Average score: "+p1.calculate());
        }
        else
        {
            p2.display();
            System.out.println("Average score: "+p2.calculate());
        }
    }
}

```

OUTPUT:

```
D:\Kusum\00J2020>java Plymain
Enter the Player details:
ID:
1001
Name:
Sujay
Number of matches played:
5
Enter the score in match 1:
23
Enter the score in match 2:
34
Enter the score in match 3:
50
Enter the score in match 4:
0
Enter the score in match 5:
63
Enter the Player details:
ID:
1002
Name:
Ajay
Number of matches played:
4
Enter the score in match 1:
37
Enter the score in match 2:
77
Enter the score in match 3:
12
Enter the score in match 4:
35
Player details with greater average score:
ID: 1002
Name: Ajay
Number of matches played: 4
Score in match 1:37
Score in match 2:77
Score in match 3:12
Score in match 4:35
Average score: 40.25
```

2. 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.

CODE:

```
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("\nEnter 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("\nThe 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 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("\nEnter 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("\nThe details of the book written by "+authorname+" are as follows:");
b1.display();
}
if(j==true)
{
System.out.println("\nThe details of the book written by "+authorname+" are as follows:");
b2.display();
}
if(k==true)
{
System.out.println("\nThe details of the book written by "+authorname+" are as follows:");
b3.display();
}
}
```

```
if((b1.price>b2.price)&&(b1.price>b3.price))
System.out.println("\nThe most expensive book among the three is "+b1.booktitle);
if((b2.price>b1.price)&&(b2.price>b3.price))
System.out.println("\nThe most expensive book among the three is "+b2.booktitle);
if((b3.price>b1.price)&&(b3.price>b2.price))
System.out.println("\nThe 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("\nNumber of books 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("\nThe 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();
}
}
}
```

OUTPUT:

```
D:\Kusum\00J2020>java BookMain

Enter the Book details:
Enter Book ID:
101
Enter Book title:
Scarlett
Enter number of pages of the book:
250
Enter year of publication of the book:
1998
Enter the name of author of the book:
William
Enter the publisher name of the book:
John
Enter price of the book:
299

Enter the Book details:
Enter Book ID:
103
Enter Book title:
Arise
Enter number of pages of the book:
300
Enter year of publication of the book:
2020
Enter the name of author of the book:
Anne
Enter the publisher name of the book:
Maple
Enter price of the book:
99
```

```
Enter the Book details:
Enter Book ID:
102
Enter Book title:
Twilight
Enter number of pages of the book:
450
Enter year of publication of the book:
2014
Enter the name of author of the book:
Harry
Enter the publisher name of the book:
Meghan
Enter price of the book:
600
```

```
The Book details are as below:
The Book ID:101
The Book title:Scarlett
The number of pages of the book:250
The year of publication of the book:1998
The name of author of the book:William
The name of publisher name of the book:John
The price of the book:299.0
```

```
The Book details are as below:
The Book ID:103
The Book title:Arise
The number of pages of the book:300
The year of publication of the book:2020
The name of author of the book:Anne
The name of publisher name of the book:Maple
The price of the book:99.0
```


The Book details are as below:
The Book ID:102
The Book title:Twilight
The number of pages of the book:450
The year of publication of the book:2014
The name of author of the book:Harry
The name of publisher name of the book:Meghan
The price of the book:600.0

Enter the author name:
William

The details of the book written by William are as follows:

The Book details are as below:
The Book ID:101
The Book title:Scarlett
The number of pages of the book:250
The year of publication of the book:1998
The name of author of the book:William
The name of publisher name of the book:John
The price of the book:299.0

The title of the most expensive book among the three is Twilight

Number of books published in the year 2020 are 1

The details of the book with the least number of pages among the three are as follows:

The Book details are as below:
The Book ID:101
The Book title:Scarlett
The number of pages of the book:250
The year of publication of the book:1998
The name of author of the book:William
The name of publisher name of the book:John
The price of the book:299.0