

1.Create an arraylist of user-defined data type Book. it should have:-

i)Name of the Book

ii)Author of the book

iii)year of publication of the book

iV)number of copies sold.

Sort the array list based on the year of publication.

```
package SBA_2;

import java.util.ArrayList;
import java.util.Collections;
import java.util.Comparator;
import java.util.List;

class Book {
String book_name,book_author;
int year;
int no_of_copies_sold;
public Book( String book_name, String book_author, int year, int no_of_copies_sold)
{
this.book_name = book_name;
this.book_author = book_author;
this.year = year;
this.no_of_copies_sold = no_of_copies_sold;
}
public Integer getYear() {
return year;
}

@Override
public String toString() {

return " date="+year+", name="+book_name+", author="+book_author+",
cpy="+no_of_copies_sold+"\n";
}
}

public class q1 {
public static void main(String[] args) {
```

```

List<Book> list=new ArrayList<Book>();

Book b1=new Book("Two States","Chethan Bagath",2009,12000);

Book b2=new Book("Kite Runner","Khaled",2008,150);

Book b3=new Book("Little Women","May Alcott",2019,200);

Book b4=new Book("A little book oh Happiness","Ruskin Bond",2021,500);

list.add(b1);

list.add(b2);

list.add(b3);

list.add(b4);

System.out.println("NAME OF BOOK"+" | "+"AUTHOR OF BOOK"+" | "+"YEAR OF PUBLISH"+" | "+"COPIES SOLD");

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

System.out.println("-----Original List-----");

for(Book b:list){

System.out.println(b.book_name+" | "+b.book_author+" | "+b.year+" | "+b.no_of_copies_sold);

}

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

System.out.println("-----After Sorting List-----");

list.sort((source,target) -> {return (source.getYear() - target.getYear());});

list.sort(Comparator.comparingInt(Book::getYear));

System.out.println(list);

}

}

```

```

SBA - SBA/src/SBA_2/q1.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
<terminated> q1 (1) [Java Application] C:\Users\MY BOOK\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.1.v20211116-1657\jre\bin\javaw.exe (01-Apr-2022, 5:30:52 pm – 5:30:53 pm)
NAME OF BOOK | AUTHOR OF BOOK | YEAR OF PUBLISH | COPIES SOLD

-----Original List-----
Two States | Chethan Bagath | 2009 | 12000
Kite Runner | Khaled | 2008 | 150
Little Women | May Alcott | 2019 | 200
A little book oh Happiness | Ruskin Bond | 2021 | 500

-----After Sorting List-----
[ date=2008, name=Kite Runner, author=Khaled, cpy=150
, date=2009, name=Two States, author=Chethan Bagath, cpy=12000
, date=2019, name=Little Women, author=May Alcott, cpy=200
, date=2021, name=A little book oh Happiness, author=Ruskin Bond, cpy=500
]

```

2. Write a program to create, write and read from a file.

```
package SBA_2;
```

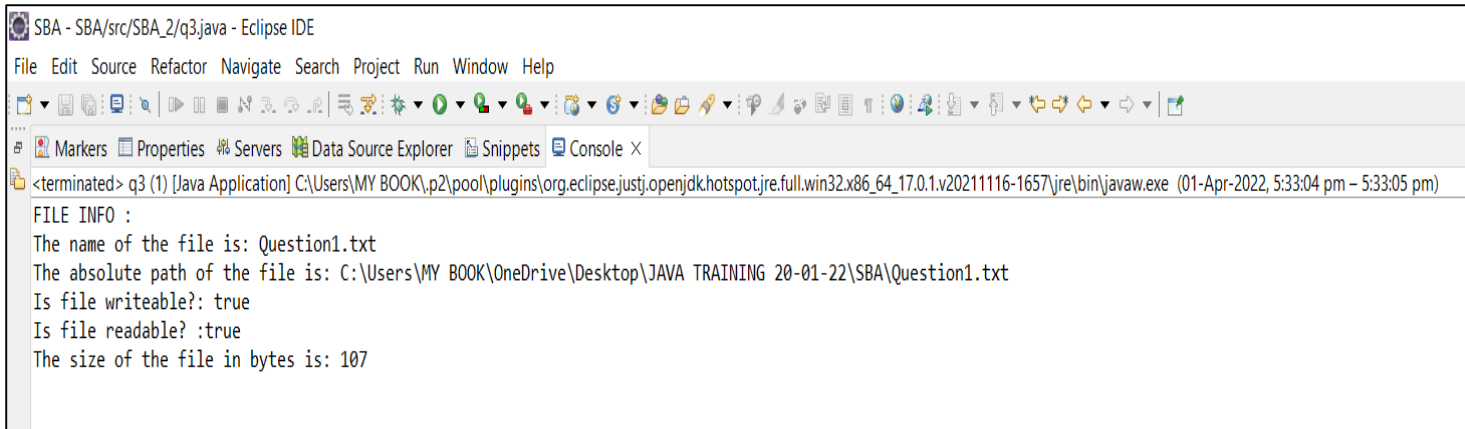
```

import java.io.File;
import java.io.FileWriter;
import java.io.IOException;
import java.util.Scanner;

public class q2 {
    public static void main(String[] args) {
        try
        {
            File file = new File("C:\\Users\\MY BOOK\\OneDrive\\Desktop\\JAVA TRAINING 20-01-22\\SBA\\Question1.txt");
            boolean create=file.createNewFile();
            if (create)
            {
                System.out.println("File - " + file.getName() + " is created successfully.");
            }
            else
            {
                System.out.println("File is already existing in the directory.");
            }
            //-----writing to file & reading from file-----
            try
            {
                FileWriter fwrite = new FileWriter("C:\\\\Users\\\\MY BOOK\\\\OneDrive\\\\Desktop\\\\JAVA TRAINING 20-01-22\\\\SBA\\\\Question1.txt");
                fwrite.write("This is the file created for question 1 and I have inserted data into this file according to my convenience");
                fwrite.close();
                System.out.println("Content is successfully wrote to the file.");

                File f1 = new File("C:\\\\Users\\\\MY BOOK\\\\OneDrive\\\\Desktop\\\\JAVA TRAINING 20-01-22\\\\SBA\\\\Question1.txt");
                Scanner dataReader = new Scanner(f1);
                while (dataReader.hasNextLine())
                {
                    String fileData = dataReader.nextLine();
                    System.out.println(fileData);
                }
            }
            catch(IOException e)
            {

```

4. Write a program Implement the filereader until the file ending character is “-1” and print all the data of the file.

```
package SBA_2;
```

```
import java.io.FileNotFoundException;
```

```
import java.io.FileReader;
```

```
import java.io.IOException;
```

```
public class q4 {
```

```
public static void main(String[] args) throws IOException {
```

```
int ch;
```

```
FileReader fr=null;
```

```
try
```

```
{
```

```
fr = new FileReader("C:\\Users\\MY BOOK\\OneDrive\\Desktop\\JAVA TRAINING 20-01-22\\Question1.txt");
```

```
}
```

```
catch (FileNotFoundException e)
```

```
{
```

```
System.out.println("File not found");
```

```
System.out.println(e);
```

```
}
```

```
System.out.println("This is the content read from the file : "+"\\n");
```

```
while ((ch=fr.read())!=-1)
```

```
System.out.print((char)ch);
```

```
fr.close();
```

```
}
```

}

