(day-13 Assignment)
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.

//code

```
import java.util.ArrayList;

import java.util.Collections;
import java.util.Comparator;


   class Pbook{
       private String name,author;
       private Integer cpy,year;

       public Pbook(String name,String author,Integer cpy, Integer year) {
           this.name=name;
           this.author=author;
           this.cpy=cpy;
           this.year=year;
       }

       public Integer getYear() {
           return year;
       }

       @Override
       public String toString() {

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

   }
public class SBA2_1 {

       public static void main(String[] args) {
           ArrayList<Pbook> bk=new ArrayList<Pbook>();
           bk.add(new Pbook("wings of fire","APJ ABDUL kALAM",400,2000));
           bk.add(new Pbook("an i deniel","ashlin",120,1997));
           bk.add(new Pbook("Tw States","Chethan Bhagat",500,2003));
           bk.add(new Pbook("The Alchemist","Paulo Coelho",1500,1988));


           System.out.println(" beforesorting:\n"+bk);
           bk.sort((source,target) -> {return (source.getYear() -
target.getYear());});
```

```
            bk.sort(Comparator.comparingInt(Pbook::getYear));
            System.out.println(bk);
        }

    }
```

//output

```
"C:\Users\Castro K Joseph\.jdks\openjdk-17.0.2\bin\java.exe" "-javaagent
 2021.3.1\bin" -Dfile.encoding=UTF-8 -classpath "C:\Users\Castro K Josep
 beforesorting:
[ date=2000, name=wings of fire, author=APJ ABDUL kALAM, cpy=400
,  date=1997, name=an i deniel, author=ashlin, cpy=120
,  date=2003, name=Tw States, author=Chethan Bhagat, cpy=500
,  date=1988, name=The Alchemist, author=Paulo Coelho, cpy=1500
]
[ date=1988, name=The Alchemist, author=Paulo Coelho, cpy=1500
,  date=1997, name=an i deniel, author=ashlin, cpy=120
,  date=2000, name=wings of fire, author=APJ ABDUL kALAM, cpy=400
,  date=2003, name=Tw States, author=Chethan Bhagat, cpy=500
]

Process finished with exit code 0
```

(day-14 assignment)

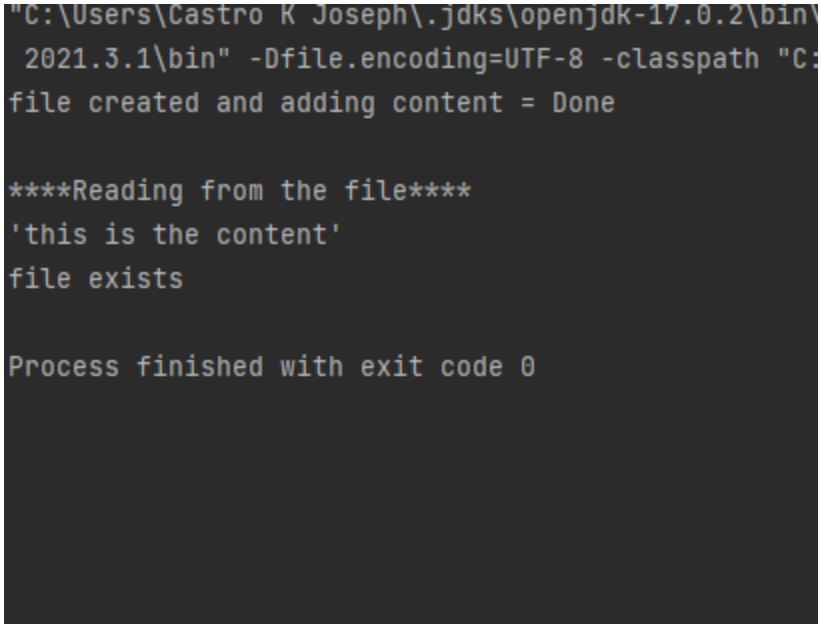
2.Write a program to create, write and read from a file.

//code

```
import java.io.File;
import java.io.IOException;
import java.io.PrintWriter;
import java.io.FileReader;
import  java.io.*;
public class SBA2_2 {

   public static void main(String[] args) {
       try
       {
           File file=new File("SBA2_2.txt");

           if(!file.exists())
           {

               file.createNewFile();
```

```
            }
            //content for file
            PrintWriter pw= new PrintWriter(file);
            pw.println("'this is the content'");
            pw.println("file exists");
            pw.close();
            System.out.println("file created and adding content = Done");

            System.out.println();
            System.out.println("****Reading from the file****");

            try{

            FileReader fr = new FileReader("SBA2_2.txt"
                    );


            int i;
            while ((i = fr.read()) != -1)

                System.out.print((char)i);
        }
            catch (IOException e) {

                e.printStackTrace();
            }
        }
        catch (IOException e) {

            e.printStackTrace();
        }

    }
}
```

//output



3.Write a program to get the information about the file.

//code

```
import java.io.*;
public class SBA2_3 {

   public static void main(String[] args) {

       File f=new File("SBA2_2.txt");
       if(f.exists())
       {
           System.out.println("File Name       :"+f.getName());
           System.out.println("File Path       :"+f.getAbsolutePath());
           System.out.println("File Free Space :"+f.getFreeSpace());
           System.out.println("File Writable   :"+f.canRead());
           System.out.println("File Readable   :"+f.canWrite());
           System.out.println("File useSpace   :"+f.getUsableSpace());

           System.out.println("File TotalSpace :"+f.getTotalSpace());
       }
       else
       {
           System.out.println("file doesn exists");
       }
   }

}
```

//output

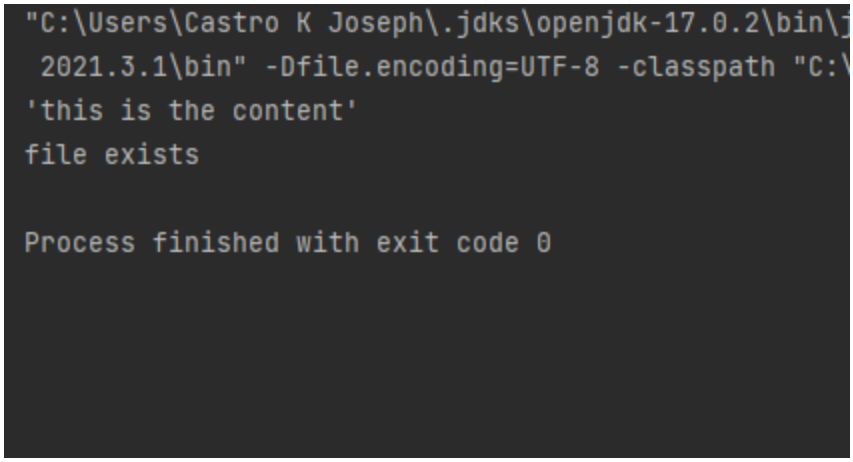
```
"C:\Users\Castro K Joseph\.jdks\openjdk-17.0.2\bin\java.exe" "-javaagent:C:\Progr
 2021.3.1\bin" -Dfile.encoding=UTF-8 -classpath "C:\Users\Castro K Joseph\IdeaPro
File Name       :SBA2_2.txt
File Path       :C:\Users\Castro K Joseph\IdeaProjects\PracticeJava\SBA2_2.txt
File Free Space :21867024384
File Writable   :true
File Readable   :true
File useSpace   :21867024384
File TotalSpace :204155658240

Process finished with exit code 0
```

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

//code

```
import  java.io.*;
import java.io.FileReader;
public class SBA2_4 {

   public static void main(String[] args) throws IOException
   {
       try {
           FileReader file=new FileReader("SBA2_2.txt");
           int data=file.read();
           while(data!=-1) {
               System.out.print((char)data);
               data=file.read();
           }
           file.close();
       }
       catch (FileNotFoundException e)
       {
           e.printStackTrace();
       }

   }
}
```

//output


"C:\Users\Castro K Joseph\.jdks\openjdk-17.0.2\bin\j
2021.3.1\bin" -Dfile.encoding=UTF-8 -classpath "C:\
'this is the content'
file exists
Process finished with exit code 0