

LAB EXERCISE ON FILE HANDLING

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COURSE : JAVA PROGRAMMING LAB

SLOT : L13-L14

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DATE : 06/04/2022

1. Write a program to create a text file in the path
c:\java\abc.txt and check whether that file exists or not.

Code :

```
import java.io.*;
```

```
public class P1  
{
```

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

```
File f = new File("F\\abc.txt");

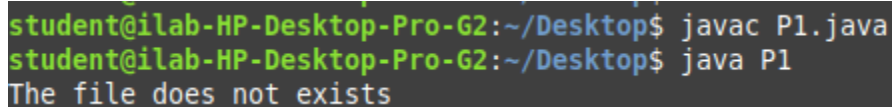
if(f.exists())

System.out.println("The file exists ");

else
System.out.println("The file does not exists ");

}
}
```

Output :

A screenshot of a terminal window with a dark background. It shows the execution of a Java program. The first line shows the command 'javac P1.java' being executed, and the second line shows 'java P1'. The output of the program is 'The file does not exists'.

```
student@ilab-HP-Desktop-Pro-G2:~/Desktop$ javac P1.java
student@ilab-HP-Desktop-Pro-G2:~/Desktop$ java P1
The file does not exists
```

2) Write a program to accept specified number of characters as input, convert them into uppercase characters and save the data in a text file

Code:

```
import java.util.*;
import java.io.FileWriter;
import java.io.IOException;
```

```
public class P2
{

    public static void main(String[] args)
    {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter a string " );

        String str = sc.next();

        String str1 = str.toUpperCase();
        try
        {

            FileWriter f = new FileWriter("UpperCase.txt");
            f.write(str1);
            System.out.println(str1);
            f.close();

            System.out.println("The a file named UpperCase is created
            and the content is saved in the file ");
        }

        catch(IOException e)
        {
            System.out.println(e.getMessage());
        }
    }
}
```

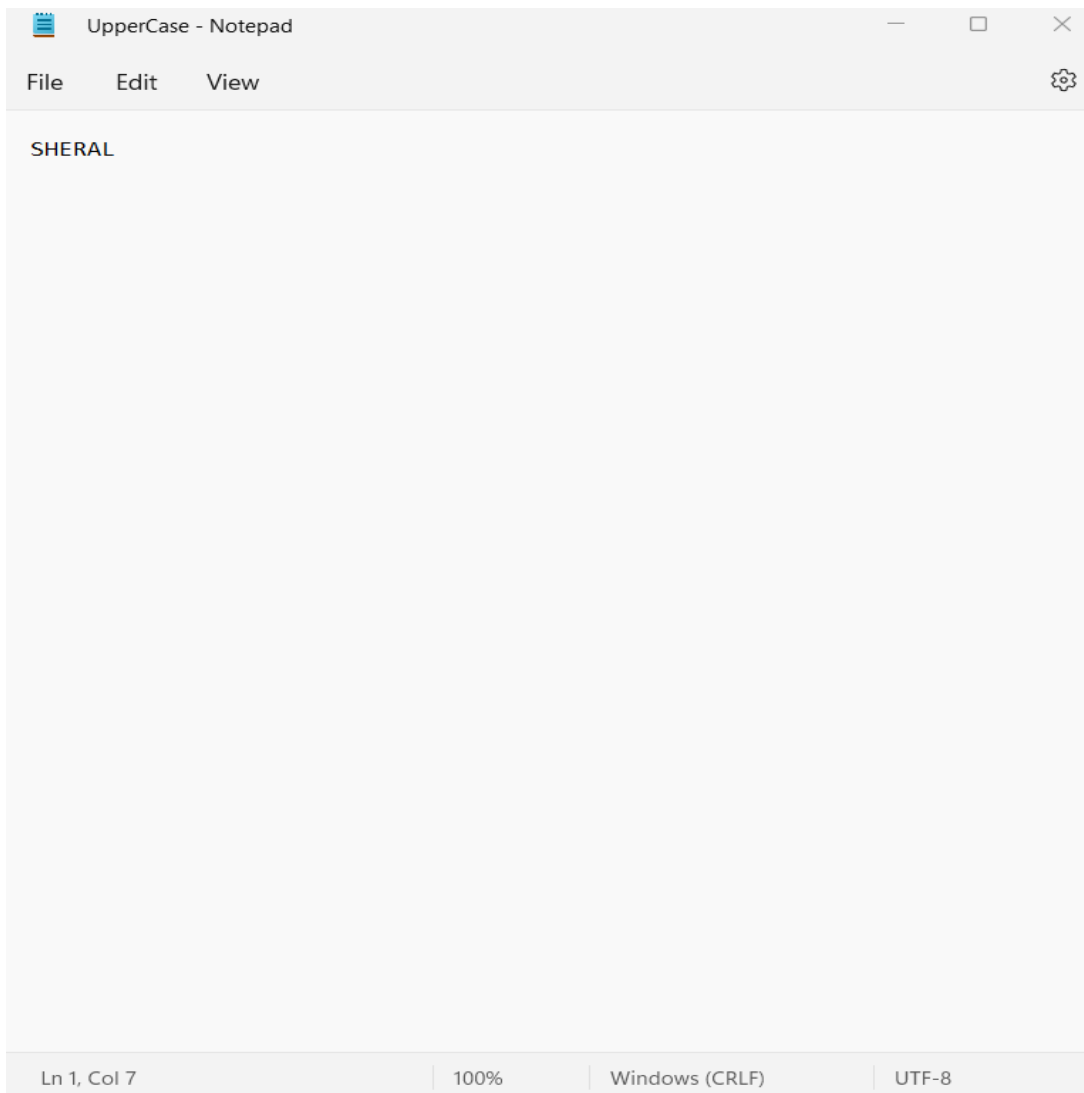
}

}

}

Output :

```
D:\SEM 4\CSE1007_LAB>javac P2.java  
D:\SEM 4\CSE1007_LAB>java P2.java  
Enter a string  
sheral  
SHERAL  
The file named UpperCase is created and the content is saved in the file
```



3) Write a program for a mail-order company. The program uses a data-entry screen in which the user types an item number and a quantity. The valid item numbers and prices are as follows:

Item-Number Price

101 100.50

105 175.95

108 220.45

115 280.75

125 300.99

When the user enters an item number, check the number to make sure that it is valid. If it is valid, write the record that

includes item number, quantity, price in a text file, otherwise your program should raise a user-defined exception.

Code :

```
import java.io.*;
import java.util.*;
```

```
public class File {
    public static void main(String[] args) throws
        IOException, InvalidItemNumberException {
        FileOutputStream os = new FileOutputStream("file3.txt");
        DataOutputStream dos = new DataOutputStream(os);
        int itemNo, quantity;
```

```
        double price[]=new double[5];
        price[0]=100.50;
        price[1]=175.95;
        price[2]=220.45;
        price[3]=280.75;
        price[4]=300.99;
```

```
        int Item[]=new int[5];
        Item[0]=101;
        Item[1]=105;
        Item[2]=108;
        Item[3]=115;
        Item[4]=125;
```

```
        String ch;
        Scanner sc = new Scanner(System.in);
```

```
int i,c=0;
do
{
c=0;
System.out.println("Enter the item number,quantity:");

itemNo = sc.nextInt();

quantity = sc.nextInt();
try{
for(i=0;i<5;i++){

if(itemNo==Item[i]){

dos.writeInt(itemNo);

dos.writeInt(quantity);

dos.writeDouble(price[i]);
c=1;
}
}
if(c==0){
throw new InvalidItemNumberException();
}
}

catch(InvalidItemNumberException ie){
System.out.println("Invalid Item Number");
```

```
}  
System.out.println("Continue(y/n)?");  
ch = sc.next();  
}while(ch.equals("y"));  
dos.close();  
  
}  
}
```

```
class InvalidItemNumberException extends Exception{  
  
}
```

Output :

```
D:\SEM 4\CSE1007_LAB>javac File.java  
  
D:\SEM 4\CSE1007_LAB>java File.java  
Enter the item number,quantity:  
101  
4  
Continue(y/n)?  
y  
Enter the item number,quantity:  
105  
6  
Continue(y/n)?  
y  
Enter the item number,quantity:  
115  
7  
Continue(y/n)?  
n
```


4) Modify the above program such that, if the item number is valid, save the record in a file in object format, otherwise your program should raise a user-defined exception.

Code:

```
import java.io.*;
import java.util.*;

public class File4 {
    public static void main(String[] args) throws
    IOException,InvalidItemNumberException
    {
        FileOutputStream f = new FileOutputStream(new
        File("file3.txt"));
        ObjectOutputStream o = new ObjectOutputStream(f);
        int Item[]=new int[5];
        Item[0]=101;
        Item[1]=105;
        Item[2]=108;
        Item[3]=115;
        Item[4]=125;
        double price[]=new double[5];
        price[0]=100.50;
        price[1]=175.95;
        price[2]=220.45;
        price[3]=280.75;
        price[4]=300.99;
        String ch;
        Scanner sc = new Scanner(System.in);
        int itemNo,quantity;
        int i,c=0;
        do
```

```

{
c=0;
System.out.println("Enter the item number,quantity:");
itemNo = sc.nextInt();
quantity = sc.nextInt();
try {
for(i=0;i<5;i++){
Employee fi = new Employee(itemNo,quantity,price[i]);
if(itemNo==Item[i]){
o.writeObject(fi);
c=1;
}
}
if(c==0){
throw new InvalidItemNumberException();
}
}
catch(InvalidItemNumberException ie){
System.out.println("Invalid Item Number");
}
System.out.println("Continue(y/n)?");
ch = sc.next();
}while(ch.equals("y"));
o.close();
}
}

```

```

class InvalidItemNumberException extends Exception{
}
class Employee implements Serializable
{

```

```

private int itemNo;
private int quantity;
private double price;
Employee()
{
};
Employee(int it, int q,double p )
{ itemNo = it;
  quantity=q;
  p=price;
}
public String toString()
{
return "ItemNo" + itemNo + "\nQuantity: " + quantity +
"\nPrice: " + price;
}
}

```

Output:

```

D:\SEM 4\CSE1007_LAB>javac File4.java

D:\SEM 4\CSE1007_LAB>java File4.java
Enter the item number,quantity:
101
4
Continue(y/n)?
y
Enter the item number,quantity:
105
6
Continue(y/n)?
y
Enter the item number,quantity:
106
5
Invalid Item Number
Continue(y/n)?
n

```

5) Write a program that reads the data file created by the Q3 program and displays one record at a time on screen and finally prints the total price.

Code :

```
import java.io.*;
```

```
public class Prog5 {  
    public static void main(String[] args) throws IOException {  
        InputStream is = new FileInputStream("file3.txt");  
        DataInputStream dis = new DataInputStream(is);
```

```
  
        int Item[]=new int[5];  
        Item[0]=101;  
        Item[1]=105;  
        Item[2]=108;  
        Item[3]=115;  
        Item[4]=125;  
        double price[]=new double[5];  
        price[0]=100.50;  
        price[1]=175.95;  
        price[2]=220.45;  
        price[3]=280.75;  
        price[4]=300.99;  
        int itemNo,quantity;  
        double unitPrice,price1=0.0;  
        try  
        {  
            while(dis.available() > 0 ){
```

```

itemNo = dis.readInt();
quantity = dis.readInt();
unitPrice = dis.readDouble();
System.out.println(itemNo + "\t" + quantity + "\t" +
unitPrice);
price1=price1+(unitPrice*quantity);
}
System.out.println("Total Price "+price1);
dis.close();
}

catch(IOException e)
{
System.out.println("An IOException was caught : " +
e.getMessage());

}
}}

```

Output :

```

D:\SEM 4\CSE1007_LAB>javac Prog5.java

D:\SEM 4\CSE1007_LAB>java Prog5.java
101      4      100.5
105      6      175.95
115      7      280.75
Total Price 3422.95

```

6) Consider a table “Employee” with fields: EmpID, EmpName, department and designation. Write a Java program to perform the following operations:

a) Read employee name, department and designation and insert a new record. EmpID should be generated

automatically such that new employee ID is one greater than maximum employee ID.

b) Given an employee ID, your program should display other details.

c) Given a department name, your program should print all employees belong to that department.

d) Given a employee ID, your program should be able to change either her department or designation

Code :

```
import java.io.*;
import java.util.Scanner;
public class Eg6
{
    public static void main(String[] args)
    {
        int EmpID=1001,cid,choice,fid;
        String EmpName,dept,desig,Mdept,Cvar,var="";
        Scanner s = new Scanner(System.in);
        Scanner s1 = new Scanner(System.in);
        Scanner s2 = new Scanner(System.in);
        Scanner s3 = new Scanner(System.in);
        Scanner s4 = new Scanner(System.in);
        Scanner s5 = new Scanner(System.in);
        Scanner s6 = new Scanner(System.in);
        Scanner s7 = new Scanner(System.in);
        Scanner s8 = new Scanner(System.in);
        try{
            File f1 = new File("file.txt");
            f1.createNewFile();
```

```

FileWriter fw = new FileWriter(f1);
for(int i=0;i<5;i++)
{
    EmpName = s.next();
    dept = s1.next();
    desig = s2.next();
    fw.write(Integer.toString(EmpID)+" "+EmpName+"
"+dept+" "+desig+"\n");
    EmpID++;
    if(i==4)
        fw.close();
}
}
catch(Exception e)
{;}
System.out.println("Enter EmpID to view details");
fid=s3.nextInt();
try{
    File f = new File("file.txt");
    Scanner data = new Scanner(f);
    while(data.hasNextLine())
    {
        String id = data.next();
        if(id.equals(Integer.toString(fid)))
        {
            String i1 = data.next();
            String i2 = data.next();
            String i3 = data.next();
            System.out.println(i1+" "+i2+" "+i3);
        }
    }
}
data.close();

```

```

    }
    catch(Exception e){;}
    System.out.println("Enter department name:");
    Mdept=s5.next();
    try{
        File f3 = new File("file.txt");
        Scanner info = new Scanner(f3);
        while(info.hasNextLine())
        {
            int id = info.nextInt();
            String i1 = info.next();
            String i2 = info.next();
            String i3 = info.next();
            if(i2.equals(Mdept))
                System.out.println(id+" "+i1+" "+i3);
        }
        info.close();
    }
    catch(Exception e){;}
    System.out.println("Enter EmpID to modify details");
    cid=s4.nextInt();
    System.out.println("Enter 1 to change department
name or 2 to change designation name");
    choice = s6.nextInt();
    System.out.println("Enter details to modify");
    Cvar = s7.next();
    String oldContent="";
    try{
        File f2 = new File("file.txt");
        Scanner data = new Scanner(f2);
        while(data.hasNextLine())

```



```

{
    String id1 = data.next();
    String info;
    if(id1.equals(Integer.toString(cid)))
    {
        String d1 = data.next();
        String d2 = data.next();
        String d3 = data.next();
        if(choice==1)
            var = var.concat(d2);
        if(choice==2)
            var = var.concat(d3);
    }
    BufferedReader data1 = new BufferedReader(new
FileReader(f2));
    FileWriter fw = new FileWriter(f2);
    String line = data1.readLine();
    while(line!=null){
        oldContent=
oldContent+line+System.lineSeparator();
        line = data1.readLine();
    }
    String newContent =
oldContent.replaceAll(var,Cvar);
    fw.write(newContent);
    fw.close();
    data1.close();
    data.close();
}
catch(Exception e){e.printStackTrace();}
}

```

}

Output :

```
D:\SEM 4\CSE1007_LAB>javac Eg6.java

D:\SEM 4\CSE1007_LAB>java Eg6.java
Sheral
Marketing
Manager
Reena
Sales
Clerk
Sanya
HR
Manager
Tina
Technical
Clerk
Riya
Content
Manager
Enter EmpID to view details
1001
Sheral Marketing Manager
Enter department name:
HR
1003 Sanya Manager
Enter EmpID to modify details
1001
Enter 1 to change department name or 2 to change designation name
2
Enter details to modify
Clerk
```