

S.No: 23 Exp. Name: Write the code to print a file into n parts Date: 2023-12-21

Aim:
Write a Java code to print a file into n parts

Source Code:

```
q1204split1.java
package com;
import java.io.*;
import java.util.*;
public class q1204split1 {
    public static void main(String args[])
    {
        try{
            String inputfile="test.txt";
            FileOutputStream fw=new FileOutputStream(inputfile);
            Scanner in=new Scanner(System.in);
            int count=1;
            while(in.hasNextLine())
            {
                input.nextLine();
                count++;
            }
            System.out.println("Lines in the file: "+count);
            double temp=(count/n);
            int temp1=(int)temp;
            int rem=(int)(temp-temp1);
            if(rem!=0)
                rem+=1;
            else
                rem=1;
            for(int i=1;i<=n;i++)
            {
                fw.createNewFile();
                for(int j=1;j<temp1;j++)
                    fw.write("file "+j+"\r\n");
                if(count>temp1)
                    fw.write("\r\n");
            }
            fw.close();
        }
        catch(Exception e)
        {
            System.out.println("Error: "+e.getMessage());
        }
    }
}
```

[ID: 224516571] Page No: 37

test.txt
Insert here : SG14805208480
line1
line2

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Lines in the file: 1
No. of Files to be generated: 1

[ID: 224516571] Page No: 38

S.No: 24 Exp. Name: program to create a super class called Figure that it returns the area of a rectangle and triangle Date: 2023-11-18

Aim:
Write a Java program to create a super class called Figure that receives the dimensions of two dimensional objects. It also defines a method called area that computes the area of an object. The program derives two subclasses from Figure, the first is Rectangle and second is Triangle. Each of the sub classes override area so that it returns the area of a rectangle and triangle respectively.

Source Code:

```
AbstractArea.java
```

[ID: 224516571] Page No: 39

```
import java.util.*;
abstract class Figure
{
    double length,breadth;
    Figure(double a,double b)
    {
        length=a;
        breadth=b;
    }
    abstract void area();
}
class Rectangle extends Figure
{
    Rectangle(double a,double b)
    {
        super(a,b);
    }
    void area()
    {
        double Area=(length*breadth);
        System.out.println("Area is "+Area);
    }
}
class Triangle extends Figure
{
    Triangle(double a,double b)
    {
        super(a,b);
    }
    void area()
    {
        double Area=(breadth*length)/2;
        System.out.println("Area is "+Area);
    }
}
class AbstractArea
{
    public static void main(String args[])
    {
        System.out.print("Enter length and breadth of Rectangle : ");
        Scanner in=new Scanner(System.in);
        double lengthInput=Double.parseDouble(in.nextLine());
        double breadthInput=Double.parseDouble(in.nextLine());
        double dim=(lengthInput+breadthInput);
        System.out.print("Enter height and side of Triangle : ");
        Scanner in1=new Scanner(System.in);
        double heightInput=Double.parseDouble(in1.nextLine());
        double dim1=(heightInput+dim)/2;
        System.out.println("Area is "+dim1);
        System.out.println("Area is "+Area);
    }
}
```

[ID: 224516571] Page No: 40

Test Case - 1
User Output
Enter length and breadth of Rectangle :
5
14
Enter height and side of Triangle :
5
5
Rectangle
Area is 14.0
Triangle
Area is 37.5

[ID: 224516571] Page No: 41

Execution Results - All test cases have succeeded!

```
package c1104;
class q1204
{
    public static void main(String[] args) throws ExecutionException {
        Thread t1 = new Thread(new Printer("Hello", 1, 2));
        Thread t2 = new Thread(new Printer("Hello", 1, 2));
        Thread t3 = new Thread(new Printer("Hello", 1, 2));
        t1.start();
        t2.start();
        t3.start();
        t1.join();
        t2.join();
        t3.join();
        System.out.println("All the three threads t1, t2 and t3 have completed execution.");
    }
}
class Printer implements Runnable {
    String message;
    int delay;
    int count;
    Printer(String a,int b,int c)
    {
        message=a;
        delay=b;
        count=c;
    }
    public void run()
    {
        for(int i=0;i<count;i++)
        {
            System.out.println(message);
            try
            {
                Thread.sleep(delay*1000);
            }catch(InterruptedException e)
            {
                e.printStackTrace();
            }
        }
        System.out.println("ok");
    }
}
```

[ID: 224516571] Page No: 43

All the three threads t1, t2 and t3 have completed execution.

[ID: 224516571] Page No: 44

S.No: 25 Exp. Name: Write a Java program demonstrating the usage of Threads Date: 2023-12-21

Aim:
Write a Java program that uses three threads to perform the below actions:
1. First thread should print "Hello" for every 2 seconds for 2 times.
2. Second thread should print "Hello" for every 3 seconds for 2 times.
3. Third thread should print "Hello" for every 1 seconds for 1 times.

With appropriate comments in the [Thread] class which implements [Runnable] interface to take these arguments: message, delay and count.

Note: If you want to sleep for 2 seconds you should call [Thread.sleep(2000)], as the [Thread.sleep(...)] method takes milliseconds as argument.

Note: Please don't change the package name.

Source Code:

```
q1104ThreadDemo.java
```

[ID: 224516571] Page No: 42

Write code in the [Runnable.run()] method to print the message with appropriate delay and for number of times mentioned in count.

Write a class called [ThreadDemo] with the [main()] method which instantiates and executes three instances of the above mentioned [Printer] class as threads to produce the desired output.

[Note: If you want to sleep for 2 seconds you should call [Thread.sleep(2000)], as the [Thread.sleep(...)] method takes milliseconds as argument].

Note: Please don't change the package name.

Source Code:

```
q1104ThreadDemo.java
```

[ID: 224516571] Page No: 43

Execution Results - All test cases have succeeded!

```
Test Case - 1  
User Output  
Hello  
Hello  
Hello  
Hello  
Hello  
Hello
```

[ID: 224516571] Page No: 45

file.txt
This is test string 20000... The test string is replaced with your input string, check the string you entered is now visible here.

[ID: 224516571] Page No: 46

S.No: 26 Exp. Name: Program to find and replace pattern in a given file. Date: 2023-12-21

Aim:
Write a Java program to find and replace patterns in a given file. Replace the string "This is test string 20000" with the input string.
Note: Please don't change the package name.

Source Code:

```
c0770ReplaceFile.java
package c0770;
import java.io.*;
import java.util.*;
class Replace {
    public static void main(String args[])
    {
        File file = new File("file.txt");
        BufferedReader reader = new BufferedReader(new FileReader(file));
        String lineReader = new String();
        while((lineReader=reader.readLine())!=null)
        {
            lineReader = lineReader.replace("oldtext","newtext");
            System.out.print(lineReader);
        }
        reader.close();
        System.out.print("Previous string: "+oldtext);
        String newtext = oldtext.replace("oldtext","newtext");
        System.out.print("New String: "+newtext);
    }
    catch(Exception ioe)
    {
        ioe.printStackTrace();
    }
}

```

[ID: 224516571] Page No: 47

Execution Results - All test cases have succeeded!
Test Case - 1
User Output

User Output
NoOf String in LinkedList:
2
Enter the String:
James
Enter the String:
Being
LinkedList:[James, Being]
Number of string : 2
return
Being

Page No. 64

2022-2026-CSE

Srinivas Parameter Institute of Technology

S
Name:
John:
Rank:
Rank : 1 Name : Jennifer
Rank : 2 Name : John
Rank : 3 Name : Robert

Page No. 65

2022-2026-CSE

Srinivas Parameter Institute of Technology

S.No:	Exp. Name: Write java program(s) that use collection framework classes (ArrayList class)	Date: 2023-12-06										
Aim: Write a java program(s) that use collection framework classes (ArrayList class)												
Source Code:												
<pre>ArrayListExample.java import java.util.*; public class ArrayListExample { public static void main(String args[]) { Scanner in = new Scanner(System.in); System.out.println("Enter Arraylist length:"); int n = in.nextInt(); ArrayList<Integer> arrlist = new ArrayList<Integer>(); for(int i=0;i<n;i++) { arrlist.add(i); } System.out.println("ArrayList printing by using iterator:"); Iterator<Integer> itr = arrlist.iterator(); while(itr.hasNext()) { System.out.println(itr.next()); } } }</pre>												
Execution Results - All test cases have succeeded!												
<table border="1"> <thead> <tr><th>Test Case - 1</th></tr> </thead> <tbody> <tr><td>User Output</td></tr> <tr><td>Enter ArrayList length:</td></tr> <tr><td>4</td></tr> <tr><td>ArrayList printing by using iterator:</td></tr> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> <tr><td>4</td></tr> <tr><td>5</td></tr> </tbody> </table>			Test Case - 1	User Output	Enter ArrayList length:	4	ArrayList printing by using iterator:	1	2	3	4	5
Test Case - 1												
User Output												
Enter ArrayList length:												
4												
ArrayList printing by using iterator:												
1												
2												
3												
4												
5												
<table border="1"> <thead> <tr><th>Test Case - 2</th></tr> </thead> <tbody> <tr><td>User Output</td></tr> <tr><td>Enter ArrayList length:</td></tr> <tr><td>3</td></tr> <tr><td>ArrayList printing by using iterator:</td></tr> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> </tbody> </table>			Test Case - 2	User Output	Enter ArrayList length:	3	ArrayList printing by using iterator:	1	2	3		
Test Case - 2												
User Output												
Enter ArrayList length:												
3												
ArrayList printing by using iterator:												
1												
2												
3												

Page No. 65

2022-2026-CSE

Srinivas Parameter Institute of Technology

S.No:	Exp. Name: Write java program(s) that use collection framework classes (HashMap class)	Date: 2023-12-06																	
Aim: Write a java program(s) that use collection framework classes (HashMap class)																			
Source Code:																			
<pre>HashMapclass.java import java.util.*; import java.io.BufferedReader; import java.io.InputStreamReader; public class HashMapclass { public static void main(String args[]) throws Exception { BufferedReader br = new BufferedReader(new InputStreamReader(System.in)); System.out.println("No.of Mapping Elements in HashTable:"); int hashValueSize = Integer.parseInt(br.readLine()); HashMap<Integer, String> hashtable = new HashMap<Integer, String>(); for(int i=0;i<hashValueSize;i++) { System.out.print("Name:"); String name = br.readLine(); System.out.print("Rank:"); String rank = br.readLine(); hashtable.put(name,rank); } Iterator<String> keys = hashtable.keySet(); while(keys.hasNext()) { String nextKey = (String)keys.next(); System.out.println("Rank : " + hashtable.get(nextKey)); } } }</pre>																			
Execution Results - All test cases have succeeded!																			
<table border="1"> <thead> <tr><th>Test Case - 1</th></tr> </thead> <tbody> <tr><td>User Output</td></tr> <tr><td>NoOf Mapping Elements in HashTable:</td></tr> <tr><td>3</td></tr> <tr><td>Name:</td></tr> <tr><td>John</td></tr> <tr><td>Rank:</td></tr> <tr><td>1</td></tr> <tr><td>Name:</td></tr> <tr><td>Robert</td></tr> <tr><td>Rank:</td></tr> <tr><td>2</td></tr> <tr><td>Name:</td></tr> <tr><td>Jennifer</td></tr> <tr><td>Rank : 3 Name : Jennifer</td></tr> <tr><td>Rank : 2 Name : John</td></tr> <tr><td>Rank : 1 Name : Robert</td></tr> </tbody> </table>			Test Case - 1	User Output	NoOf Mapping Elements in HashTable:	3	Name:	John	Rank:	1	Name:	Robert	Rank:	2	Name:	Jennifer	Rank : 3 Name : Jennifer	Rank : 2 Name : John	Rank : 1 Name : Robert
Test Case - 1																			
User Output																			
NoOf Mapping Elements in HashTable:																			
3																			
Name:																			
John																			
Rank:																			
1																			
Name:																			
Robert																			
Rank:																			
2																			
Name:																			
Jennifer																			
Rank : 3 Name : Jennifer																			
Rank : 2 Name : John																			
Rank : 1 Name : Robert																			

Page No. 66

2022-2026-CSE

Srinivas Parameter Institute of Technology