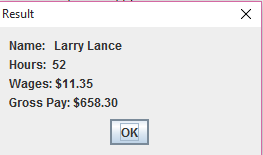
# Writing a Sequential File

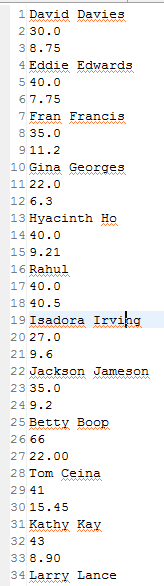
This program illustrates an example of sequential file processing.

# Positive Testing:

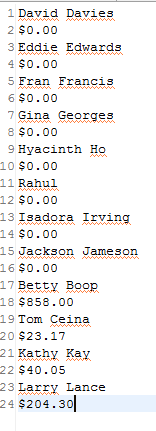
## Result with Gross Pay



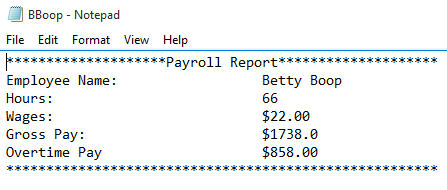
## Payroll.txt:

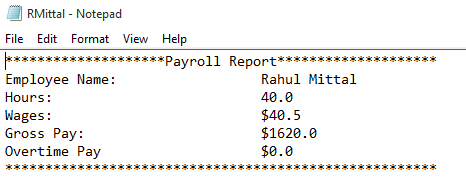


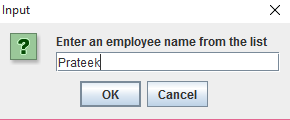
## Overtime.txt file screenshot

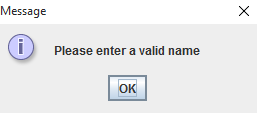


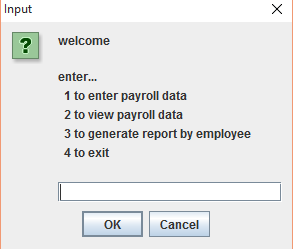
## Sample Reports

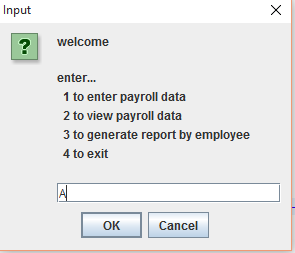


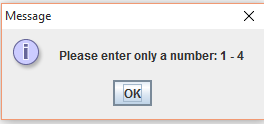


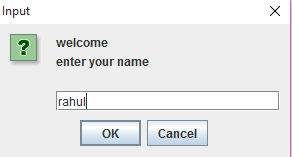


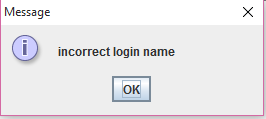


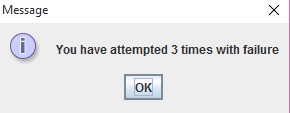


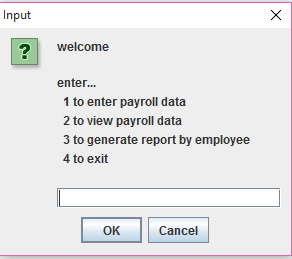


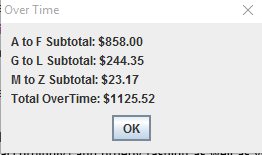




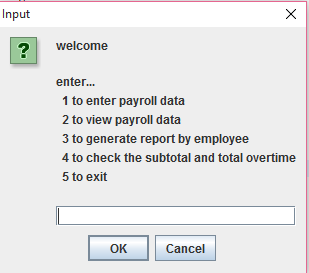






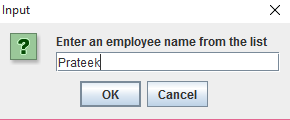


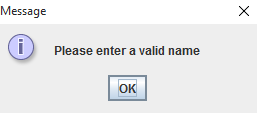
After including Summary.Java:



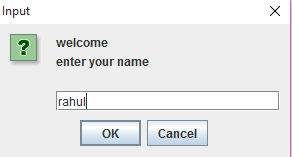
# Negative Testing:

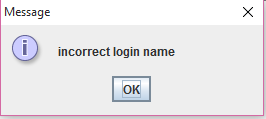
## Entering a wrong Name in Report.Java

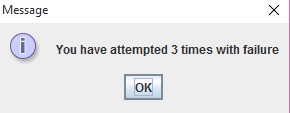




## Entering more than 3 time wrong username or password







# Code Snippet:

## createdata.java

/\*\*

\* Name: Rahul Mittal

\* Lab Name: ITMD\_510\_LAB\_06

\* Current Date: 11/01/2015

\*/

import java.io.BufferedWriter;

import java.io.File;

import java.io.FileWriter;

import java.io.IOException;

import javax.swing.JOptionPane;

public class CreateData {

public static void main(String[] args)

{

new CreateData();

}

public CreateData()

{

int repeat = 1;

String answer;

do

{

Write();

answer = JOptionPane.showInputDialog ("write payroll " +

"data?\n" + "enter 1 to continue or 0 to exit");

repeat = Integer.parseInt(answer);

}while(repeat == 1);

System.exit(1);

}

/\*

\* Method to write the data into the file

\* This method validate each and every value and

\* convert every string value to either integer,double

\* and again convert it to String to write it in a file

\*/

static void Write()

{

try {

String firstLine = "",

secondLine = "",

thirdLine = "",

number = "";

Double hours = 0.0,

wage = 0.0;

File check = new File("payroll.txt");

FileWriter file;

if(check.exists())

//allows appending of data to file

file = new FileWriter("payroll.txt", true);

else

file = new FileWriter("payroll.txt");

BufferedWriter buffer = new BufferedWriter(file);

int size = 0, count = 1;

number = JOptionPane.showInputDialog(null,"how many records?");

//Check for null and blank value of number of records

if(number == null)

{

System.exit(0);

}

else if( number.equalsIgnoreCase(""));

{

while(number.equalsIgnoreCase(""))

{

number = JOptionPane.showInputDialog(null,"how many records?");

if(number == null)

{

System.exit(0);

}

}

}

//Check for string value in number of records

String errorMessage = "";

do

{

try

{

size = Math.abs(Integer.parseInt(number));

break;

}

catch(NumberFormatException e)

{

number = JOptionPane.showInputDialog(null,"how many records?");

if(number == null)

{

System.exit(0);

}

errorMessage = "Error";

}

}while (!errorMessage.isEmpty());

// Check for null and blank value for name

do

{

firstLine = JOptionPane.showInputDialog(null,"Enter name");

if(firstLine == null)

{

System.exit(0);

}

else if( firstLine.equalsIgnoreCase(""));

{

while(firstLine.equalsIgnoreCase(""))

{

firstLine = JOptionPane.showInputDialog(null,"Enter name");

if(firstLine == null)

{

System.exit(0);

}

}

}

//Check for null value of hours

secondLine = JOptionPane.showInputDialog(null,"Enter hours");

if(secondLine == null)

{

System.exit(0);

}

else if( secondLine.equalsIgnoreCase(""));

{

while(secondLine.equalsIgnoreCase(""))

{

secondLine = JOptionPane.showInputDialog(null,"Enter hours");

if(secondLine == null)

{

System.exit(0);

}

}

}

//Check for string value in number of hours

do

{

try

{

hours = Math.abs(Double.parseDouble(secondLine));

break;

}

catch(NumberFormatException e)

{

secondLine = JOptionPane.showInputDialog(null,"Enter hours?");

if(secondLine == null)

{

System.exit(0);

}

errorMessage = "Error";

}

}while (!errorMessage.isEmpty());

//convert double to string for writing the data to file

String hours\_string = Double.toString(hours);

//Check for null and blank value for wage

thirdLine = JOptionPane.showInputDialog(null,"Enter wage");

if(thirdLine == null)

{

System.exit(0);

}

else if( thirdLine.equalsIgnoreCase(""));

{

while(thirdLine.equalsIgnoreCase(""))

{

thirdLine = JOptionPane.showInputDialog(null,"Enter wage");

if(thirdLine == null)

{

System.exit(0);

}

}

}

//check for string value in wage

do

{

try{

wage = Math.abs(Double.parseDouble(thirdLine));

}

catch(NumberFormatException e)

{

thirdLine = JOptionPane.showInputDialog(null,"Enter wage");

if(thirdLine == null)

{

System.exit(0);

}

errorMessage = "Error";

}

} while(!errorMessage.isEmpty());

//convert to string value for writing it to file

String wage\_string = Double.toString(wage);

//write all the data to file

buffer.write(firstLine);

buffer.newLine();

buffer.write(hours\_string);

buffer.newLine();

buffer.write(wage\_string);

buffer.newLine();

count++;

firstLine = null;

secondLine = null;

thirdLine = null;

}while(count <= size);

buffer.close();

JOptionPane.showMessageDialog(null, "data processed",

"Result", JOptionPane.PLAIN\_MESSAGE );

}

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

}

}

## Readdata.java

/\*\*

\* Name: Rahul Mittal

\* Lab Name: ITMD\_510\_LAB\_06

\* Current Date: 11/01/2015

\*/

import java.io.BufferedReader;

import java.io.BufferedWriter;

import java.io.File;

import java.io.FileReader;

import java.io.FileWriter;

import java.io.IOException;

import java.math.BigDecimal;

import java.text.DecimalFormat;

import javax.swing.JOptionPane;

public class ReadData { //Rahul Student, Programmer

/\*

\* This method will read the data from the file payroll.txt

\* and calculate gross pay, overtime pay and display the

\* payroll details of each and every employee

\*/

public ReadData ()

{

try {

String[] firstLine = new String[100],

secondLine = new String[100],

thirdLine = new String[100];

double hours[] = new double[100], wages[] = new double[100];

int index;

double overTimeWage, overTimePay = 0.00;

for (index = 0; index < 100; index++) {

firstLine[index] = "";

secondLine[index] = "";

thirdLine[index ] = "";

hours[index] = 0.0;

wages[index] = 0.0;

}

FileReader file = new FileReader("payroll.txt");

BufferedReader buffer = new BufferedReader(file);

index = 0;

String line;

DecimalFormat twoDecimal = new DecimalFormat("#.00");

while((line = buffer.readLine()) != null)

{

firstLine [index] = line;

secondLine[index] = buffer.readLine();

thirdLine [index ] = buffer.readLine();

hours[index] = Double.parseDouble(secondLine[index]);

wages[index] = Double.parseDouble(thirdLine[index]);

twoDecimal.format(wages[index]);

double grossPay;

if(hours[index] <= 40)

{

grossPay = ( hours[index] \* wages[index] );

}

else

{

overTimeWage = 1.5 \* wages[index];

overTimePay = (hours[index] - 40) \* overTimeWage;

twoDecimal.format(overTimePay);

grossPay = ((40 \* wages[index]) + overTimePay);

}

BigDecimal result = new BigDecimal(grossPay).setScale(2, BigDecimal.ROUND\_HALF\_UP);

String stringName = ("Name: " + firstLine[index]);

String stringHours = ("Hours: " + secondLine[index]);

String stringWages = ("Wages: " + "$" + wages[index]);

String stringGrossPay = ("Gross Pay: " + "$" + result);

JOptionPane.showMessageDialog(null,stringName + "\n"

+ stringHours + "\n" + stringWages + "\n" + stringGrossPay, "Result",

JOptionPane.PLAIN\_MESSAGE );

overTimeWrite(firstLine[index],overTimePay);

index++;

}

buffer.close();

System.exit(0);

}

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

}

/\*

\* This will create a overtime.txt file having

\* overtime pay information for every employee

\*/

static void overTimeWrite(String name,double overPay)

{

{

try {

String firstLine, secondLine = "";

File check = new File("overtime.txt");

FileWriter file;

if(check.exists())

file = new FileWriter("overtime.txt", true);

else

file = new FileWriter("overtime.txt");

BufferedWriter buffer = new BufferedWriter(file);

firstLine = name;

secondLine = ("$" + String.format( "%.2f", overPay));

buffer.write(firstLine);

buffer.newLine();

buffer.write(secondLine);

buffer.newLine();

buffer.close();

}

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

}

}

public static void main(String[] args)

{

new ReadData();

}

}

## report.java

/\*\*

\* Name: Rahul Mittal

\* Lab Name: ITMD\_510\_LAB\_06

\* Current Date: 11/01/2015

\*/

**import** java.io.BufferedReader;

**import** java.io.BufferedWriter;

**import** java.io.File;

**import** java.io.FileReader;

**import** java.io.FileWriter;

**import** java.text.DecimalFormat;

**import** java.util.ArrayList;

**import** java.util.Collections;

**import** javax.swing.JOptionPane;

/\*

\* This method will first display the list of employees

\* in sorted manner and then the user need to enter the

\* name of the employee, if that employee name exists

\* then it will generate a payroll report of the employee

\* else it will display a message saying that the name is invalid

\*/

**public** **class** Report { //Rahul Student, Programmer

String firstLine = "", secondLine = "", thirdLine = "";

**double** hours = 0.00, wages = 0.00;

**double** grossPay,overTime,overTimeWage = 0.00;

DecimalFormat twoDecimal = **new** DecimalFormat("0.00");

ArrayList<String> emp = **new** ArrayList<String>();

**public** Report() **throws** Exception

{

FileReader file = **new** FileReader("payroll.txt");

BufferedReader buffer = **new** BufferedReader(file);

String line;

**while** ((line = buffer.readLine()) != **null**) {

firstLine = line;

secondLine = buffer.readLine();

thirdLine = buffer.readLine();

emp.add(line);

}//end while

buffer.close();

file.close();

String empList = "";

Collections.*sort*(emp);

**for** (String str : emp) {

empList += str + "\n";

}

JOptionPane.*showMessageDialog*(**null**, "Name:\n" + empList, "List of Employees",

JOptionPane.***PLAIN\_MESSAGE***);

//Get input then of desired employee name to save employee data to a file

String userInput = "";

**while** (userInput == **null** || userInput.equals("")) {

userInput = JOptionPane.*showInputDialog*("Enter an employee name from the list");

}

**if** (empList.toLowerCase().contains(userInput.toLowerCase())) {

FileReader file2 = **new** FileReader("payroll.txt");

BufferedReader buffer2 = **new** BufferedReader(file2);

String input;

//Loop the file

**while** ((line = buffer2.readLine()) != **null**) {

firstLine = line;

secondLine = buffer2.readLine();

thirdLine = buffer2.readLine();

input = userInput.toLowerCase();

**if**(firstLine.equalsIgnoreCase(input))

{

generate\_Report(firstLine,secondLine,thirdLine);

}

}

buffer2.close();

file2.close();

JOptionPane.*showMessageDialog*(**null**, "Report Generated.", "Result", JOptionPane.***PLAIN\_MESSAGE***);

}

//Error Message

**else** {

JOptionPane.*showMessageDialog*(**null**, "Please enter a valid name");

}

System.*exit*(0);

}

/\*

\* This method will generate a report

\*/

**public** **void** generate\_Report(String name,String lv\_hours,String lv\_wages)

{

hours = Double.*parseDouble*(lv\_hours);

wages = Double.*parseDouble*(lv\_wages);

**if**(hours <= 40)

{

grossPay = ( hours \* wages );

}

**else**

{

overTimeWage = 1.5 \* wages;

overTime = (hours - 40) \* overTimeWage;

twoDecimal.format(overTime);

grossPay = ((40 \* wages) + overTime);

}

String split[] = name.split(" ");

**char** name\_First = Character.*toUpperCase*(split[0].charAt(0));

String last\_Name = split[1];

String file\_Name = (name\_First + last\_Name + ".txt");

File check\_Report = **new** File(file\_Name);

FileWriter file\_Report = **null**;

**try**

{

**if**(check\_Report.exists())

file\_Report = **new** FileWriter(file\_Name, **true**);

**else**

file\_Report = **new** FileWriter(file\_Name);

}

**catch**(Exception e)

{

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

}

BufferedWriter buffer\_Rep = **new** BufferedWriter(file\_Report);

**try**

{

**for**(**int** i = 1; i <= 20; i++)

{

buffer\_Rep.write("\*");

}

buffer\_Rep.write("Payroll Report");

**for**(**int** i = 1; i <= 20; i++)

{

buffer\_Rep.write("\*");

}

buffer\_Rep.newLine();

buffer\_Rep.write("Employee Name: ");

buffer\_Rep.write(name);

buffer\_Rep.newLine();

buffer\_Rep.write("Hours: ");

buffer\_Rep.write(secondLine);

buffer\_Rep.newLine();

buffer\_Rep.write("Wages: ");

buffer\_Rep.write("$" + thirdLine);

buffer\_Rep.newLine();

buffer\_Rep.write("Gross Pay: ");

String gross\_String = ("$" + Double.*toString*(grossPay));

buffer\_Rep.write(gross\_String);

buffer\_Rep.newLine();

buffer\_Rep.write("Overtime Pay ");

String overtime\_String = ("$" + String.*format*( "%.2f", overTime));

buffer\_Rep.write(overtime\_String);

buffer\_Rep.newLine();

**for**(**int** i = 1; i <=54 ; i++)

{

buffer\_Rep.write("\*");

}

buffer\_Rep.close();

}

**catch**(Exception e)

{

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

}

}

**public** **static** **void** main(String[] args) **throws** Exception

{

**new** Report();

}

}

## menu.java

/\*\*

\* Name: Rahul Mittal

\* Lab Name: ITMD\_510\_LAB\_06

\* Current Date: 11/01/2015

\*/

**import** javax.swing.JOptionPane;

//programmer: Rahul Student

**public** **class** Menu {

**public** Menu()

{

String message = "welcome" + "\n", response;

message += "\n" + "enter...";

message += "\n" + " 1 to enter payroll data";

message += "\n" + " 2 to view payroll data";

message += "\n" + " 3 to generate report by employee";

message += "\n" + " 4 to check the subtotal and total overtime";

message += "\n" + " 5 to exit" + "\n" + " ";

**char** answer = 'Y';

**do** {

**try** {

response = JOptionPane.*showInputDialog*(message);

**int** choice = Integer.*parseInt*(response);

**switch** (choice) {

//This will call CreateData.java

**case** 1: CreateData cd = **new** CreateData();

answer = 'N'; System.*exit*(1);

**break**;

//This will call ReadData

**case** 2: ReadData rd = **new** ReadData();

answer = 'N'; System.*exit*(1);

**break**;

//This will call Report.java which will generate a report for an employee

**case** 3: Report rpt = **new** Report();

answer = 'N'; System.*exit*(1);

**break**;

//This will call Summary.java which will display the summary

**case** 4: Summary sum = **new** Summary();

answer = 'N'; System.*exit*(1);

**break**;

//This will exit the program

**case** 5: answer = 'N'; System.*exit*(1);

**break**;

**default**: { answer = 'Y'; choice = 0;

JOptionPane.*showMessageDialog*(**null**,"enter a number: 1 - 5");

}

}//end switch

}//end try

**catch** (Exception e )

{

JOptionPane.*showMessageDialog*(**null**,"Please enter only a number: 1 - 5");

}

}**while**(answer == 'Y' || answer == 'y');

}

**public** **static** **void** main(String[] args)

{

**new** Menu();

}//end main

}//end class

## login.java

/\*\*

\* Name: Rahul Mittal

\* Lab Name: ITMD\_510\_LAB\_06

\* Current Date: 11/01/2015

\*/

**import** javax.swing.JOptionPane;

//programmer: Rahul Student

**public** **class** Login {

**public** **static** **void** main(String[] args)

{

**boolean** access = **false**;

String message = "welcome" + "\n", response;

**int** count = 0;

message += "enter your name";

message += "\n" + " ";

**do**

{

String name = JOptionPane.*showInputDialog*(message);

String password;

name = name.trim();

name = name.toUpperCase();

**if** (name.equalsIgnoreCase("Admin"))

{

count = 0;

JOptionPane.*showMessageDialog*(**null**,"hello " + name);

message = "enter your password";

message += "\n" + " ";

password = JOptionPane.*showInputDialog*(message);

password = password.trim();

password = password.toUpperCase();

**if** (password.equals("ADMIN"))

{

access = **true**;

**break**;

}

**else**

JOptionPane.*showMessageDialog*(**null**, "incorrect password");

count++;

}

**else**

{

JOptionPane.*showMessageDialog*(**null**, "incorrect login name");

count++;

//System.exit(1);

}

}

**while**(count < 3);

**if**(access == **true**)

{

**try** {

Menu m = **new** Menu();

System.*exit*(1);

}

**catch** (Exception e) { System.***out***.println(e);}

}

**else**

{

JOptionPane.*showMessageDialog*(**null**, "You have attempted 3 times with failure");

System.*exit*(0);

}

}//end main

}//end class

## summary.java

/\*\*

\* Name: Rahul Mittal

\* Lab Name: ITMD\_510\_LAB\_06

\* Current Date: 11/01/2015

\*/

**import** java.io.BufferedReader;

**import** java.io.FileReader;

**import** java.io.IOException;

**import** java.text.DecimalFormat;

**import** javax.swing.JOptionPane;

**public** **class** Summary {

/\*

\* This method will display the summary of overtime

\* pay of employees starting from A to F,G to L and

\* M to Z and the total overtime salary

\*/

**public** Summary()

{

**try**

{

String firstLine, secondLine = "";

**double** a\_to\_f\_Subtotal = 0.00,

g\_to\_l\_Subtotal = 0.00,

m\_to\_z\_Subtotal = 0.00,

total\_Overtime = 0.00,

overTime = 0.00;

DecimalFormat twoDecimal = **new** DecimalFormat("#.00");

FileReader file = **new** FileReader("overtime.txt");

BufferedReader buffer = **new** BufferedReader(file);

String line;

**while**((line = buffer.readLine()) != **null**)

{

firstLine = line.toLowerCase();

secondLine = buffer.readLine();

overTime = Double.*parseDouble*(secondLine.substring(1,secondLine.length()));

**char** first\_Char = firstLine.charAt(0);

**if**(first\_Char >= 'a' && first\_Char <= 'f')

{

a\_to\_f\_Subtotal = a\_to\_f\_Subtotal + overTime;

}

**else** **if**(first\_Char >= 'g' && first\_Char <= 'l' )

{

g\_to\_l\_Subtotal = g\_to\_l\_Subtotal + overTime;

}

**else** **if**(first\_Char >= 'm' && first\_Char <= 'z')

{

m\_to\_z\_Subtotal = m\_to\_z\_Subtotal + overTime;

}

}

total\_Overtime = a\_to\_f\_Subtotal + g\_to\_l\_Subtotal + m\_to\_z\_Subtotal;

JOptionPane.*showMessageDialog*(**null**,"A to F Subtotal: " + "\t" + "$"

+ twoDecimal.format(a\_to\_f\_Subtotal) + "\n" + "G to L Subtotal: " +

"\t" + "$" + twoDecimal.format(g\_to\_l\_Subtotal) + "\n" + "M to Z Subtotal: " +

"\t" + "$" + twoDecimal.format(m\_to\_z\_Subtotal) + "\n"

+ "Total OverTime: " + "\t" + "$" + twoDecimal.format(total\_Overtime), "Over Time",

JOptionPane.***PLAIN\_MESSAGE*** );

}

**catch**(IOException e)

{

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

}

**catch**(Exception e)

{

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

}

}

**public** **static** **void** main(String[] args)

{

**new** Summary();

}

}