Project8\_1:

import java.util.\*;

import java.io.\*;

public class Project8\_1 {

public static void main(String[] args){

BST bst = new BST();

String fName = "month";

try{

copydata(fName, bst);

}catch(Exception e){

e.printStackTrace();

}

System.out.println("Month's name No.Days");

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

bst.display(bst.root);

// Leaves

System.out.print("Leaves of the tree are: ");

bst.displayLeaves(bst.root);

// Parents with two Children

System.out.print("\nParents with two children are: ");

bst.displayTwoChildern(bst.root);

// Parents with only one child

System.out.print("\nParents with only one child are: ");

//bst.displayOnlyOne(bst.root);

bst.displayOneChild(bst.root);

// num of nodes

System.out.println("\nThere are " + bst.countNodes(bst.root) + " nodes in the tree.");

// height of tree

System.out.println("The height of tree is " + bst.countHeight(bst.root));

}

public static void copydata(String fName, BST bst) throws Exception

{

BufferedReader read = new BufferedReader(new FileReader(fName));

String line = new String();

while((line = read.readLine())!=null){

String[] token = line.split("\t",2);

bst.insert(token[0], Integer.parseInt(token[1]));

}

}

}

output:

Month's name No.Days

--------------------------

April 30

August 31

December 31

February 29

January 31

July 31

June 30

March 31

May 31

November 30

October 31

September 30

Leaves of the tree are: December July November

Parents with two children are: January March

Parents with only one child are: February April August June May September October

There are 12 nodes in the tree.

The height of tree is 6

Project8\_2:

import java.util.\*;

import java.io.\*;

public class Project8\_2 {

public static void main(String[] args){

AcctBST bst = new AcctBST();

String fName = "data.txt";

try{

copydata(fName, bst);

}catch(Exception e){

e.printStackTrace();

}

char option = ' ';

char cont = ' ';

do{

option = Menu();

processOpt(option, bst);

System.out.print("CONTINU(y/n)? ");

Scanner read = new Scanner(System.in);

cont = read.next().charAt(0);

String temp = read.nextLine();

}while(cont == 'y' || cont == 'Y');

//bst.display(bst.root);

}

public static char Menu(){

char option;

Scanner read = new Scanner(System.in);

System.out.println("------------Menu------------"

+ "\na. Enter ID number to deposit"

+ "\nb. Enter ID number to withdraw"

+ "\nc. Enter ID number to see your balance");

System.out.print("Enter your choice(a-c): ");

option = read.next().charAt(0);

String temp = read.nextLine();

return option;

}

public static void processOpt(char option, AcctBST bst){

switch(option){

case('a'): deposit(bst); break;

case('b'): withdraw(bst); break;

case('c'): balance(bst); break;

default: break;

}

}

public static void deposit(AcctBST bst){

Scanner read = new Scanner(System.in);

System.out.print("Enter your ID number: ");

int id = read.nextInt();

AcctN p = bst.search(id, bst.root);

System.out.println(p.name + ", how much would like to deposit? ");

p.balance += read.nextInt();

System.out.printf("Your new balance now is %5.2f%n" , p.balance);

}

public static void withdraw(AcctBST bst){

Scanner read = new Scanner(System.in);

System.out.print("Enter your ID number: ");

int id = read.nextInt();

AcctN p = bst.search(id, bst.root);

System.out.println(p.name + ", how much would like to withdrwa? ");

p.balance -= read.nextInt();

System.out.printf("Your new balance now is %5.2f%n" , p.balance);

}

public static void balance(AcctBST bst){

Scanner read = new Scanner(System.in);

System.out.print("Enter your ID number: ");

int id = read.nextInt();

AcctN p = bst.search(id, bst.root);

System.out.printf("Your new balance now is %5.2f%n" , p.balance);

}

public static void copydata(String fName, AcctBST bst) throws Exception{

BufferedReader read = new BufferedReader(new FileReader(fName));

String line = new String();

while((line = read.readLine())!=null){

String[] token = line.split("\t",3);

bst.insert(Integer.parseInt(token[0]), token[1], Double.parseDouble(token[2]));

}

}

}

output:

------------Menu------------

a. Enter ID number to deposit

b. Enter ID number to withdraw

c. Enter ID number to see your balance

Enter your choice(a-c): a

Enter your ID number: 40

George\_W\_Bush, how much would like to deposit?

100

Your new balance now is 889.10

CONTINU(y/n)? y

------------Menu------------

a. Enter ID number to deposit

b. Enter ID number to withdraw

c. Enter ID number to see your balance

Enter your choice(a-c): b

Enter your ID number: 40

George\_W\_Bush, how much would like to withdrwa?

40

Your new balance now is 849.10

CONTINU(y/n)? y

------------Menu------------

a. Enter ID number to deposit

b. Enter ID number to withdraw

c. Enter ID number to see your balance

Enter your choice(a-c): c

Enter your ID number: 40

Your new balance now is 849.10

CONTINU(y/n)? n

Project8\_3:

import java.util.\*;

import java.io.\*;

public class Project8\_3 {

public static void main(String[] args){

DLL doublelinked = new DLL();

String fName = "month";

try {

copydata(fName, doublelinked);

} catch (Exception e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

doublelinked.displayLR();

doublelinked.displayRL();

}

public static void copydata(String fName, DLL doublelinked) throws Exception{

BufferedReader read = new BufferedReader(new FileReader(fName));

String line = new String();

while((line = read.readLine())!=null){

String[] token = line.split("\t",3);

doublelinked.insert(token[0]);

}

}

}

output:

December->November->October->September->August->July->June->May->April->March->February->January

January->February->March->April->May->June->July->August->September->October->November->December