

package com.tvdat.\_21T1020285\_model;

import java.text.DateFormat;

import java.text.ParseException;

import java.text.SimpleDateFormat;

import java.util.Date;

import java.util.List;

public interface \_21T1020285\_GiuXeMethod {

double getChiPhi();

boolean isMatched(\_21t1020285\_ThongTinRa x);

default String formatDate(Date theDate) {

DateFormat sdf = new SimpleDateFormat("HH:mm dd/MM/yyyy");

return sdf.format(theDate);

}

default Date formatStringToDate(String theDateString) {

DateFormat sdf = new SimpleDateFormat("HH:mm dd/MM/yyyy");

try {

return sdf.parse(theDateString);

} catch (ParseException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return null;

}

default double totalTime(int kieuXe, String thoiDiemVao, String thoiDiemRa) {

String dateString1 = thoiDiemVao;

String dateString2 = thoiDiemRa;

long secs = (formatStringToDate(dateString2).getTime() - formatStringToDate(dateString1).getTime()) / 1000;

int totalHours = (int)secs / 3600;

secs = secs % 3600;

int days = totalHours / 24;

int hours = totalHours % 24;

int mins = (int)secs / 60;

secs = secs % 60;

if((kieuXe == 0 || kieuXe == 2) && (hours != 0 || mins != 0)) {

days += 1;

return (int)days;

}

else if(kieuXe == 4 && (mins > 0 || totalHours > 0)) {

double gioGuiXeOto = (double)totalHours;

gioGuiXeOto = (mins <= 30) ? gioGuiXeOto + 0.5f : gioGuiXeOto + 1f;

return gioGuiXeOto;

}

else {

return 0;

}

}

}

package com.tvdat.\_21T1020285\_model;

import java.io.BufferedReader;

import java.io.FileReader;

import java.io.IOException;

import java.text.DateFormat;

import java.text.ParseException;

import java.text.SimpleDateFormat;

import java.util.ArrayList;

import java.util.Date;

import java.util.List;

public class \_21t1020285\_ReadFile {

public static String formatDate(Date theDate) {

DateFormat sdf = new SimpleDateFormat("HH:mm dd/MM/yyyy");

return sdf.format(theDate);

}

public static Date formatStringToDate(String theDateString) {

DateFormat sdf = new SimpleDateFormat("HH:mm dd/MM/yyyy");

try {

return sdf.parse(theDateString);

} catch (ParseException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

return null;

}

public static List<\_21t1020285\_ThongTinVao> readFromFileVao(String filename) throws IOException {

List<\_21t1020285\_ThongTinVao> lstVao = new ArrayList<>();

BufferedReader br = new BufferedReader(new FileReader(filename));

while (true) {

String line = br.readLine();

if (line == null)

break;

String[] info = line.split(";");

if (info.length < 5)

continue;

int loaiXe = Integer.parseInt(info[0].trim());

String bienSoXe = info[1].trim();

String soVeXe = info[2].trim();

Date thoiGianVaoBai = formatStringToDate(info[3].trim());

String tinhTrangVaoBai = info[4].trim();

\_21t1020285\_ThongTinVao x = new \_21t1020285\_ThongTinVao(loaiXe, bienSoXe, soVeXe, thoiGianVaoBai, tinhTrangVaoBai);

lstVao.add(x);

}

br.close();

return lstVao;

}

public static List<\_21t1020285\_ThongTinRa> readFromFileRa(String filename) throws IOException {

List<\_21t1020285\_ThongTinRa> lstRa = new ArrayList<>();

BufferedReader br = new BufferedReader(new FileReader(filename));

while (true) {

String line = br.readLine();

if (line == null)

break;

String[] info = line.split(";");

if (info.length < 5)

continue;

int loaiXe = Integer.parseInt(info[0].trim());

String bienSoXe = info[1].trim();

String soVeXe = info[2].trim();

Date thoiGianRaBai = formatStringToDate(info[3].trim());

String tinhTrangRaBai = info[4].trim();

\_21t1020285\_ThongTinRa x = new \_21t1020285\_ThongTinRa(loaiXe, bienSoXe, soVeXe, thoiGianRaBai, tinhTrangRaBai);

lstRa.add(x);

}

br.close();

return lstRa;

}

}

package com.tvdat.\_21T1020285\_model;

import java.util.Date;

import lombok.AllArgsConstructor;

import lombok.Data;

import lombok.NoArgsConstructor;

@Data

@AllArgsConstructor

@NoArgsConstructor

public class \_21t1020285\_ThongTinGiuXe implements \_21T1020285\_GiuXeMethod {

Date thoiDiemVao;

Date thoiDiemRa;

@Override

public double getChiPhi() {

return 1.2;

}

@Override

public boolean isMatched(\_21t1020285\_ThongTinRa x) {

return false;

}

}

package com.tvdat.\_21T1020285\_model;

import java.util.Date;

import lombok.Data;

import lombok.NoArgsConstructor;

@Data

@NoArgsConstructor

public class \_21t1020285\_ThongTinGiuXeDap extends \_21t1020285\_ThongTinGiuXe {

String soVeXe;

public \_21t1020285\_ThongTinGiuXeDap(Date thoiDiemVao, Date thoiDiemRa, String soVeXe) {

super(thoiDiemVao, thoiDiemRa);

this.soVeXe = soVeXe;

}

@Override

public double getChiPhi() {

double totalPrice = totalTime(0, formatDate(thoiDiemVao),formatDate(thoiDiemRa)) \* 2000;

return totalPrice;

}

@Override

public boolean isMatched(\_21t1020285\_ThongTinRa x) {

return getSoVeXe().equals(x.soVeXe) ? true : false;

}

}

package com.tvdat.\_21T1020285\_model;

import java.util.Date;

import lombok.\*;

@Data

@NoArgsConstructor

public class \_21t1020285\_ThongTinGiuXeMay extends \_21t1020285\_ThongTinGiuXe {

String bienSoXe;

public \_21t1020285\_ThongTinGiuXeMay(Date thoiDiemVao, Date thoiDiemRa, String bienSoXe) {

super(thoiDiemVao, thoiDiemRa);

this.bienSoXe = bienSoXe;

}

@Override

public double getChiPhi() {

double totalPrice = totalTime(2, formatDate(thoiDiemVao),formatDate(thoiDiemRa)) \* 3000;

return totalPrice;

}

@Override

public boolean isMatched(\_21t1020285\_ThongTinRa x) {

return getBienSoXe().equals(x.bienSoXe) ? true : false;

}

}

package com.tvdat.\_21T1020285\_model;

import java.util.Date;

import lombok.\*;

@Data

@NoArgsConstructor

public class \_21t1020285\_ThongTinGiuXeOto extends \_21t1020285\_ThongTinGiuXe {

String bienSoXe;

String trangThaiKhiVao;

String trangThaiKhiRa;

public \_21t1020285\_ThongTinGiuXeOto(Date thoiDiemVao, Date thoiDiemRa, String bienSoXe, String trangThaiKhiVao, String trangThaiKhiRa) {

super(thoiDiemVao, thoiDiemRa);

this.bienSoXe = bienSoXe;

this.trangThaiKhiVao = trangThaiKhiVao;

this.trangThaiKhiRa = trangThaiKhiRa;

}

@Override

public double getChiPhi() {

double totalPrice = totalTime(4, formatDate(thoiDiemVao),formatDate(thoiDiemRa)) \* 10000;

if(trangThaiKhiVao.compareTo(trangThaiKhiRa) != 0) {

return -1;

}

return totalPrice;

}

@Override

public boolean isMatched(\_21t1020285\_ThongTinRa x) {

return getBienSoXe().equals(x.bienSoXe) ? true : false;

}

}

package com.tvdat.\_21T1020285\_model;

import java.util.Date;

import lombok.\*;

@AllArgsConstructor

@NoArgsConstructor

@Data

public class \_21t1020285\_ThongTinRa {

// Date thoiDiemVao;

// String xe;

// String loaiXe;

// String tinhTrang1;

// String thoiDiemRa;

// String tinhTrang2;

// double giaGuiXe;

int loaiXe;

String bienSoXe;

String soVeXe;

Date thoiGianRaBai;

String tinhTrangRaBai;

public String xe() {

String xe = "";

xe = this.bienSoXe.equals("Not Available") ? this.soVeXe + "\t" : this.bienSoXe;

return xe;

}

}

package com.tvdat.\_21T1020285\_model;

import java.util.Date;

import lombok.\*;

@AllArgsConstructor

@NoArgsConstructor

@Data

public class \_21t1020285\_ThongTinVao {

// Date thoiDiemVao;

// String xe;

// String loaiXe;

// String tinhTrang1;

// String thoiDiemRa;

// String tinhTrang2;

// double giaGuiXe;

int loaiXe;

String bienSoXe;

String soVeXe;

Date thoiGianVaoBai;

String tinhTrangVaoBai;

public String xe() {

String xe = "";

xe = this.bienSoXe.equals("Not Available") ? this.soVeXe + "\t" : this.bienSoXe;

return xe;

}

}

package com.tvdat.\_21T1020285\_UI;

import java.io.IOException;

import java.util.ArrayList;

import java.util.List;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ReadFile;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ThongTinGiuXe;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ThongTinGiuXeDap;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ThongTinGiuXeMay;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ThongTinGiuXeOto;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ThongTinRa;

import com.tvdat.\_21T1020285\_model.\_21t1020285\_ThongTinVao;

public class \_21T1020285\_Client {

public static String getLoaiXe(int loaiXe) {

if(loaiXe == 0) {

return "Xe ƒê·∫°p";

}

else if(loaiXe == 2) {

return "Xe M√°y";

}

else if(loaiXe == 4) {

return "Xe Oto";

}

else {

return "Lo·∫°i xe kh√¥ng h·ª£p l·ªá";

}

}

public static String getHuHong(int n) {

if(n == -1) {

return "kh√¥ng x√°c ƒë·ªãnh gi√° ti·ªÅn g·ª≠i xe.";

}

return null;

}

public static void solve() {

String pathFileVao = "/Users/spiderman/Documents/DHKH\_2021-2025/DP\_Java/21T1020285-TranVanDat/src/lib/vao.txt";

String pathFileRa = "/Users/spiderman/Documents/DHKH\_2021-2025/DP\_Java/21T1020285-TranVanDat/src/lib/ra.txt";

\_21t1020285\_ReadFile rf = null;

List<\_21t1020285\_ThongTinGiuXeDap> lstXD = new ArrayList<\_21t1020285\_ThongTinGiuXeDap>();

List<\_21t1020285\_ThongTinGiuXeMay> lstXM = new ArrayList<\_21t1020285\_ThongTinGiuXeMay>();

List<\_21t1020285\_ThongTinGiuXeOto> lstOto = new ArrayList<\_21t1020285\_ThongTinGiuXeOto>();

try {

List<\_21t1020285\_ThongTinVao> lstVao = rf.readFromFileVao(pathFileVao);

for(int i = 0; i < lstVao.size(); i++) {

\_21t1020285\_ThongTinVao ttVao = lstVao.get(i);

if(ttVao.getLoaiXe() == 0) {

\_21t1020285\_ThongTinGiuXeDap ttXD = new \_21t1020285\_ThongTinGiuXeDap();

ttXD.setSoVeXe(ttVao.getSoVeXe());

ttXD.setThoiDiemVao(ttVao.getThoiGianVaoBai());

ttXD.setThoiDiemRa(null);

lstXD.add(ttXD);

}

else if(ttVao.getLoaiXe() == 2) {

\_21t1020285\_ThongTinGiuXeMay ttXM = new \_21t1020285\_ThongTinGiuXeMay();

ttXM.setBienSoXe(ttVao.getBienSoXe());

ttXM.setThoiDiemVao(ttVao.getThoiGianVaoBai());

ttXM.setThoiDiemRa(null);

lstXM.add(ttXM);

}

else if(ttVao.getLoaiXe() == 4) {

\_21t1020285\_ThongTinGiuXeOto ttOto = new \_21t1020285\_ThongTinGiuXeOto();

ttOto.setBienSoXe(ttVao.getBienSoXe());

ttOto.setThoiDiemVao(ttVao.getThoiGianVaoBai());

ttOto.setTrangThaiKhiVao(ttVao.getTinhTrangVaoBai());

ttOto.setTrangThaiKhiRa(null);

ttOto.setThoiDiemRa(null);

lstOto.add(ttOto);

}

}

System.out.println("STT\tTh·ªùi ƒëi·ªÉm vao\t\t\t\tXe\t\tLo·∫°i xe\t\t\tT√¨nh tr·∫°ng 1\t\t\tTh·ªùi ƒëi·ªÉm ra\t\t\t\tT√¨nh tr·∫°ng 2\t\t\tGi√° gi·ªØ xe");

List<\_21t1020285\_ThongTinRa> lstRa = rf.readFromFileRa(pathFileRa);

for(int i = 0; i < lstRa.size(); i++) {

\_21t1020285\_ThongTinRa ttRa = lstRa.get(i);

int STT = i + 1;

for(int j = 0; j < lstXD.size(); j++) {

\_21t1020285\_ThongTinGiuXeDap ttXDVao = lstXD.get(j);

if(ttXDVao.isMatched(ttRa)) {

ttXDVao.setThoiDiemRa(ttRa.getThoiGianRaBai());

\_21t1020285\_ThongTinVao xdRM = new \_21t1020285\_ThongTinVao(ttRa.getLoaiXe(), ttRa.getBienSoXe(), ttRa.getSoVeXe(), ttXDVao.getThoiDiemVao(), "Not Available");

lstVao.remove(xdRM);

System.out.println(STT + "\t" + ttXDVao.getThoiDiemVao() + "\t\t" + ttRa.xe() + "\t" + getLoaiXe(ttRa.getLoaiXe()) + "\t\t\t" + "-" + "\t\t\t\t" + ttRa.getThoiGianRaBai() + "\t\t" + "-" + "\t\t\t\t" + ttXDVao.getChiPhi());

}

}

for(int k = 0; k < lstXM.size(); k++) {

\_21t1020285\_ThongTinGiuXeMay ttXMVao = lstXM.get(k);

if(ttXMVao.isMatched(ttRa)) {

ttXMVao.setThoiDiemRa(ttRa.getThoiGianRaBai());

\_21t1020285\_ThongTinVao xmRM = new \_21t1020285\_ThongTinVao(ttRa.getLoaiXe(), ttRa.getBienSoXe(), ttRa.getSoVeXe(), ttXMVao.getThoiDiemVao(), "Not Available");

lstVao.remove(xmRM);

System.out.println(STT + "\t" + ttXMVao.getThoiDiemVao() + "\t\t" + ttRa.xe() + "\t" + getLoaiXe(ttRa.getLoaiXe()) + "\t\t\t" + "-" + "\t\t\t\t" + ttRa.getThoiGianRaBai() + "\t\t" + "-" + "\t\t\t\t" + ttXMVao.getChiPhi());

}

}

for(int v = 0; v < lstOto.size(); v++) {

\_21t1020285\_ThongTinGiuXeOto ttOtoVao = lstOto.get(v);

if(ttOtoVao.isMatched(ttRa)) {

ttOtoVao.setTrangThaiKhiRa(ttRa.getTinhTrangRaBai());

ttOtoVao.setThoiDiemRa(ttRa.getThoiGianRaBai());

\_21t1020285\_ThongTinVao otoRM = new \_21t1020285\_ThongTinVao(ttRa.getLoaiXe(), ttRa.getBienSoXe(), ttRa.getSoVeXe(), ttOtoVao.getThoiDiemVao(), ttOtoVao.getTrangThaiKhiVao());

lstVao.remove(otoRM);

if(ttOtoVao.getChiPhi() == -1) {

System.out.println(STT + "\t" + ttOtoVao.getThoiDiemVao() + "\t\t" + ttRa.xe() + "\t" + getLoaiXe(ttRa.getLoaiXe()) + "\t\t\t" + ttOtoVao.getTrangThaiKhiVao() + "\t" + ttRa.getThoiGianRaBai() + "\t\t" + ttOtoVao.getTrangThaiKhiRa() + "\t\t\t" + "kh√¥ng x√°c ƒë·ªãnh gi√° ti·ªÅn g·ª≠i xe.");

}

else {

System.out.println(STT + "\t" + ttOtoVao.getThoiDiemVao() + "\t\t" + ttRa.xe() + "\t" + getLoaiXe(ttRa.getLoaiXe()) + "\t\t\t" + ttOtoVao.getTrangThaiKhiVao() + "\t" + ttRa.getThoiGianRaBai() + "\t\t" + ttOtoVao.getTrangThaiKhiRa() + "\t" + ttOtoVao.getChiPhi());

}

}

}

}

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

System.out.println("STT\tTh·ªùi ƒëi·ªÉm v√†o\t\t\t\tXe\t\t\tLo·∫°i xe\t\t\tT√¨nh tr·∫°ng");

for(int i = 0; i < lstVao.size(); i++) {

int STT = i + 1;

\_21t1020285\_ThongTinVao ttVao = lstVao.get(i);

String tinhTrang = "";

if(ttVao.getTinhTrangVaoBai().compareTo("Not Available") == 0) {

tinhTrang = "-";

}

else {

tinhTrang = ttVao.getTinhTrangVaoBai();

}

System.out.println(STT + "\t" + ttVao.getThoiGianVaoBai() + "\t\t" + ttVao.xe() + "\t\t" + getLoaiXe(ttVao.getLoaiXe()) + "\t\t\t" + tinhTrang);

}

} catch (IOException e) {

e.printStackTrace();

}

}

public static void main(String[] args) {

solve();

}

}

