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**BSCS 2A**

import java.time.LocalDateTime;

import java.util.Scanner;

class Directory{

static Scanner sc = new Scanner(System.in);

static String admin\_input; //admin input

static String password\_input; //admin input

static String adminkey = "admin";

static String passwordkey = "12345";

int maxDirectory = 999,

floorMax = 2,

floorSlotMax = 9,

userData = 10;

// Derictory Data

int Date = 0,

Name = 1,

CarModel = 2,

CarPlateNumber = 3,

FloorNum = 4,

FloorSlot = 5,

TimeOut = 7,

TicketStatus = 8,

TotalAmount = 9;

int directoryCount;

//Sales

int firstFloorAmount,

secFloorAmount;

public String[][] parkingDirectory = new String[maxDirectory][userData];

public void setParkingDirectory(String Date, String Name, String CarModel, String CarPlateNumber, String FloorNum, String FloorSlot, String TimeIn, String TimeOut, String TicketStatus){

parkingDirectory[directoryCount][this.Date] = Date;

parkingDirectory[directoryCount][this.Name] = Name;

parkingDirectory[directoryCount][this.CarModel] = CarModel;

parkingDirectory[directoryCount][this.CarPlateNumber] = CarPlateNumber;

parkingDirectory[directoryCount][this.FloorNum] = FloorNum;

parkingDirectory[directoryCount][this.FloorSlot] = FloorSlot;

parkingDirectory[directoryCount][this.TimeOut] = TimeOut;

parkingDirectory[directoryCount][this.TicketStatus] = TicketStatus;

parkingDirectory[directoryCount][this.TotalAmount] = String.valueOf(Integer.parseInt(TimeOut) \* 60);

directoryCount++;

}

public void setParkingDirectory(int floorNum, int floorSlot, String[][][] Arr){

for(int i = 0; i < Arr[directoryCount].length; i++){

parkingDirectory[directoryCount][i] = Arr[floorNum][floorSlot][i];

}

parkingDirectory[directoryCount][this.TotalAmount] = "0";

directoryCount++;

}

public void changeDirectoryInfo(int FloorNum, int FloorSlot, int Time, int TotalAmount){

for(int i = 0; i < parkingDirectory.length; i++){

if(parkingDirectory[i][this.FloorSlot] == null){

break;

}

if(Integer.parseInt(parkingDirectory[i][this.FloorSlot]) == FloorSlot && parkingDirectory[i][this.TicketStatus] == "Parked"){

parkingDirectory[i][this.TicketStatus] = "Close";

parkingDirectory[i][this.TotalAmount] = String.valueOf(TotalAmount);

parkingDirectory[i][this.TimeOut] = String.valueOf(Time);

}

}

}

public void showDirectory(){

System.out.println(" #");

System.out.println("\nDIRECTORY: "

+ "\n\nDate:"

+ "\t\t\t\tName:"

+ "\t\t\t\tCar Model:"

+ "\t\tPlate Number:"

+ "\tFloor Number:"

+ "\tFloor Slot:"

+ "\tTime In (to always starts in 0)"

+ "\tTime Out"

+ "\tStatus"

+ "\tTotal");

for(int j = 0; j < parkingDirectory.length; j++){

for(int k = 0; k < parkingDirectory[j].length; k++){

if(parkingDirectory[j][k] == null){

break;

}else if(k == 0){

System.out.print(""+parkingDirectory[j][k]);

}else if(k == 1){

System.out.print("\t\t"+parkingDirectory[j][k]);

if(parkingDirectory[j][k].length() > 7){

System.out.print("\t");

}else{

System.out.print("\t\t");

}

}else if(k == 2){

System.out.print("\t\t"+parkingDirectory[j][k]);

if(parkingDirectory[j][k].length() <= 3){

System.out.print("\t");

}else{

System.out.print("\t");

}

}else if(k == 3){

System.out.print("\t\t"+parkingDirectory[j][k]);

}else if(k == 4){

System.out.print("\t\t"+parkingDirectory[j][k]);

}else if (k > 4){

System.out.print("\t\t"+parkingDirectory[j][k]);

}

if (k == parkingDirectory[j].length - 1){

System.out.print("\n");

}

}

}

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

}

public void getTotalOnDiffFloors(){

for(int i = 0; i < parkingDirectory.length; i++){

if(parkingDirectory[i][TotalAmount] != null){

if(parkingDirectory[i][FloorNum] == ""){

firstFloorAmount += Integer.parseInt(parkingDirectory[i][TotalAmount]);

}else{

secFloorAmount += Integer.parseInt(parkingDirectory[i][TotalAmount]);

}

}

}

}

public void showTotalSales(){ //total sales display

getTotalOnDiffFloors(); //tinawag yung codes sa totaldifffloor

System.out.print("\n\t= Showing Total Sales "

+ "\n\t= "

+ "\n\t= First Floor : "

+ "\n\t= "+firstFloorAmount+" "

+ "\n\t= Second Floor : "

+ "\n\t= "+secFloorAmount+" "

+ "\n\t= Total Amount : "

+ "\n\t= "+(secFloorAmount+firstFloorAmount)+" ");

}

}

class CarParking extends Directory{

String[][][] carInfo = new String[floorMax][floorSlotMax][userData];

public boolean[][] parkStatus = new boolean[floorMax][floorSlotMax];

Scanner scanf = new Scanner(System.in);

public void setInfo(String Name, String CarModel, String UnitPlateNumber, String FloorNum, String FloorSlot, String TimeIn){

String TimeOut = "0",

TicketStatus = "Parked",

TotalAmount = "0";

int floorNum = Integer.parseInt(FloorNum);

int floorSlot = Integer.parseInt(FloorSlot);

LocalDateTime date = LocalDateTime.now();

String Date = String.valueOf(date.getMonth()+" "+date.getDayOfMonth()+", "+date.getYear());

for(int j = 0; j < carInfo[floorNum][floorSlot].length; j++){

switch(j){

case 0:

carInfo[floorNum][floorSlot][j] = Date;

break;

case 1:

carInfo[floorNum][floorSlot][j] = Name;

break;

case 2:

carInfo[floorNum][floorSlot][j] = CarModel;

break;

case 3:

carInfo[floorNum][floorSlot][j] = UnitPlateNumber;

break;

case 4:

carInfo[floorNum][floorSlot][j] = FloorNum;

break;

case 5:

carInfo[floorNum][floorSlot][j] = FloorSlot;

break;

case 6:

carInfo[floorNum][floorSlot][j] = TimeIn;

break;

case 7:

carInfo[floorNum][floorSlot][j] = TimeOut;

break;

case 8:

carInfo[floorNum][floorSlot][j] = TicketStatus;

break;

case 9:

carInfo[floorNum][floorSlot][j] = TotalAmount;

break;

}

}

setParkingDirectory(floorNum, floorSlot, carInfo);

}

public void setFloor(boolean enter){

int floorNum, floorSlot, timeO;

boolean status;

do{

do{

System.out.print("\n\tEnter Floor Number [0]Floor 1 [1]Floor 2: ");

floorNum = scanf.nextInt();

if(floorNum > floorMax-1){

System.out.println("\n\tInvalid floor number! Enter 0 for floor 1 and 1 for floor 2\n");

status = false;

}else{

status = true;

}

}while(!status);

do{

System.out.print("\tEnter Floor Slot [1] - [9]: ");

floorSlot = scanf.nextInt();

if(floorSlot > floorSlotMax-1){

System.out.println("\n\tInvalid floor slot! Please enter the right key...\n");

status = false;

}else{

status = true;

}

}while(!status);

if(parkStatus[floorNum][floorSlot] && enter){

status = true;

System.out.println("\n\tSomeone is already here");

}else{

status = false;

}

}while(status);

if(enter){

carArrival(floorNum, floorSlot);

}else{

System.out.print("\tEnter Time Out [Please do count the number of hours enter a whole number] : ");

timeO = scanf.nextInt();

carDeparture(floorNum, floorSlot, timeO);

}

}

public void carArrival(int floorNum, int floorSlot){

setAvailable(floorNum, floorSlot, true);

getUserInfo(floorNum, floorSlot);

}

public void carDeparture(int floorNum, int floorSlot, int Time){

//get Total Amount

int totalAmount,

payAmount;

boolean status;

totalAmount = Time\*60;

System.out.println("\tTotal: "+totalAmount);

do{

System.out.print("\tEnter your Cash: ");

payAmount = scanf.nextInt();

if(payAmount < totalAmount){

status = false;

}else{

payAmount = payAmount - totalAmount;

System.out.print("\tYour change is "+payAmount);

status = true;

}

}while(!status);

//setTotalAmmount on floors

if(floorNum == 1){

firstFloorAmount += totalAmount;

}else{

secFloorAmount += totalAmount;

}

changeDirectoryInfo(floorNum, floorSlot, Time, totalAmount);

setAvailable(floorNum, floorSlot, false);

deleteInfo(floorNum, floorSlot);

}

public void deleteInfo(int FloorNum, int FloorSlot){

for(int i = 0; i < carInfo[FloorNum][FloorSlot].length; i++){

carInfo[FloorNum][FloorSlot][i] = null;

}

}

public void setAvailable(int FloorNum, int FloorSlot, boolean Status){

parkStatus[FloorNum][FloorNum] = Status;

}

public void showAvailableFloor(){

for(int i = 0; i < parkStatus.length; i++){

if(i == 0){

System.out.println("\n\tFirst Floor key [0]\n");

}else{

System.out.println("\n\tSecond Floor key [1]\n");

}

for(int j = 0; j < parkStatus[i].length; j++){

if(j == 0){

System.out.print("\t");

}

if(parkStatus[i][j] == false){

System.out.print("[Parking Available]");

}else{

System.out.print("[Parking in Used]");

}

if(j >= 0){

System.out.print("\t\t");

}if(j == 2 || j == 5 || j == 8){

System.out.print("\n\t");

}

}

}

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

}

public void getUserInfo(int floorNum, int floorSlot){

String name = "",

carModel,

unitPlateNumber,

time = "0";

boolean status;

Scanner getName = new Scanner(System.in);

do{

System.out.println("\nEnter Name: ");

System.out.print("You can enter your nickname!");

name += getName.next();

if(name.length() > 7){

System.out.println("\nInvalid name. The length should be 7, if you want you can enter your nickname\n");

status = false;

}else{

status = true;

}

}while(!status);

do{

System.out.print("\nEnter Car Model: ");

carModel = scanf.next();

if(carModel.length() > 7){

System.out.println("\nInvalid Car model. The length of Car model is [7]\n");

status = false;

}else{

status = true;

}

}while(!status);

do{

System.out.print("\nEnter Plate Number: ");

unitPlateNumber = scanf.next();

if(unitPlateNumber.length() == 7){

status = true;

}else{

System.out.println("\nInvalid Plate number, length should be [7] "

+ "\n\n");

status = false;

}

}while(!status);

System.out.println("The time will starts now[0]");

System.out.println("Please enter the time you spend after you depart.");

setInfo(name, carModel, unitPlateNumber, String.valueOf(floorNum), String.valueOf(floorSlot), time);

}

public void showCarInfo(int floorNum, int floorSlot){

for(int k = 0; k < carInfo[floorNum][floorSlot].length; k++){

System.out.println(": "+carInfo[floorNum][floorSlot][k]);

}

}

}

class HOME extends CarParking{

public HOME(){

int choice,

floorNum,

floorSlot;

boolean hStatus = false;

do{

System.out.print("\n CARPARKING PARKING SEVICE MAIN MENU "

+ "\n "

+ "\n[1]: Admin Log-in "

+ "\n[2]: Car Arrival "

+ "\n[3]: Car Departure "

+ "\n[4]: Show Available Floor "

+ "\n[0]: Exit "

+ "\n\n\t\tEnter the right key [1][2][3][4][0]: ");

choice = scanf.nextInt();

if(choice < 5){

switch(choice){

case 0://Exit The Program

System.out.println("\nThank you for "

+"using our Software ^\_^ ");

hStatus = true;

break;

case 1:

//Create Admin

adminHandler();

hStatus = false;

break;

case 2://carArrival

System.out.println("\n\t\tPlease input the right information respectively...");

//call get Info

carParkingHandler();

hStatus = false;

break;

case 3://Car Departure

System.out.print("\n\t\t Car Departure \n");

//call carDepartureHandler

carDepartureHandler();

break;

case 4://show Available floor

System.out.print("\n\t Showing Available Floor & Slots "

+ "\n\t ");

//call showFloorMethod

showAvailableFloor();

hStatus = false;

break;

default:

System.out.println("\n\n\t Invalid Input can you please try again?\n");

hStatus = false;

}

}

}while(!hStatus);

}

void adminHandler(){

boolean status;

int choice;

//String admin = "";

int chu;

System.out.println("Username:");

admin\_input = sc.nextLine();

System.out.println("Password");

password\_input = sc.nextLine();

if(admin\_input.equals(adminkey)&&password\_input.equals(passwordkey)){

System.out.println("Welcome Admin");

}

do{

System.out.print("\n ADMIN DASHBOARD ");

System.out.print("\n[1]: Show Parking Directory "

+ "\n[2]: Total Sales "

+ "\n[0]: Exit "

+ "\n\n\t\tEnter the right key [1][2][0]: ");

choice = scanf.nextInt();

System.out.print("\n");

switch(choice){

case 1:// call showDirectory

showDirectory();

status = true;

break;

case 2://call TotalSales

showTotalSales();

status = true;

break;

case 0:

System.out.println("\n\n\t\tThank you for your hardwork admin!!!\n");

status = false;

break;

default:

System.out.println("\n\n\tYou have enter the wrong key... Please repeat\n");

status = true;

}

}while(status);

}

void carParkingHandler(){

boolean status;

int choice;

System.out.print("\n Welcome to Stressing Car Parking na Project ");

showAvailableFloor();

System.out.print("\n\t "

+ "\n[1]: For Floor and Slot "

+ "\n[0]: Exit "

+ "\n");

do{

System.out.print("\n\tEnter the valid key : ");

choice = scanf.nextInt();

if(choice == 1){//choose floor and slot//call method getFLoor&Slot

setFloor(true);

status = true;

}else if( choice == 0 ){

System.out.println("\n\t\tThank you for using this stressing car parking na project!!!\n");

status = true;

}else{

System.out.println("\n\n\t\tInvalid Input! Please try again!\n");

status = false;

}

}while(!status);

}

void carDepartureHandler(){

setFloor(false);

}

}

public class ParkingSerice{

public static void main(String[] args) {

HOME obj = new HOME();

}

}