CAMERA RENTAL APPLICATION

SOURCE CODE:

**package** user;

**import** java.util.ArrayList;

**import** java.util.List;

**import** java.util.Scanner;

**public** **class** CameraRentalApp {

**private** **static** Userinfo *currentUser*;

**private** **static** List<Camera> *cameraList*;

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

*initialize*();

*showWelcomeScreen*();

*login*();

*showMainMenu*();

}

**private** **static** **void** initialize() {

*currentUser* = **null**;

*cameraList* = **new** ArrayList<>();

*cameraList*.add(**new** Camera(1, "NIKON", "DSLR", 600.0, **false**));

*cameraList*.add(**new** Camera(2, "Sony", "DSLR12", 200.0, **false**));

*cameraList*.add(**new** Camera(3, "Samsung", "SM123", 200.0, **false**));

*cameraList*.add(**new** Camera(4, "LG", "L123", 500.0, **false**));

*cameraList*.add(**new** Camera(5, "Chroma", "CT", 500.0, **false**));

}

**private** **static** **void** showWelcomeScreen() {

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

System.***out***.println("| WELCOME TO CAMERA RENTAL APP |");

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

System.***out***.println("PLEASE LOGIN TO CONTINUE");

}

**private** **static** **void** login() {

Scanner scanner = **new** Scanner(System.***in***);

String username;

String password;

**do** {

System.***out***.print("USERNAME: ");

username = scanner.nextLine();

System.***out***.print("PASSWORD: ");

password = scanner.nextLine();

} **while** (!*isValidLogin*(username, password));

System.***out***.println("\nLogin Successful.");

}

**private** **static** **boolean** isValidLogin(String username, String password) {

**if** (username.equals("Admin") && password.equals("admin0123")) {

*currentUser* = **new** Userinfo(username, password);

**return** **true**;

}

**else** {

System.***out***.println("\nInvalid username or password. Please try again.\n");

**return** **false**;

}

}

**private** **static** **void** showMainMenu() {

Scanner scanner = **new** Scanner(System.***in***);

**int** choice;

**do** {

System.***out***.println("\n1. MY CAMERA");

System.***out***.println("2. RENT A CAMERA");

System.***out***.println("3. VIEW ALL CAMERAS");

System.***out***.println("4. MY WALLET");

System.***out***.println("5. EXIT");

System.***out***.print("Enter your choice: ");

choice = scanner.nextInt();

scanner.nextLine();

**switch** (choice) {

**case** 1:

*showMyCameraMenu*();

**break**;

**case** 2:

*rentCamera*();

**break**;

**case** 3:

*viewAllCameras*();

**break**;

**case** 4:

*showWalletMenu*();

**break**;

**case** 5:

System.***out***.println("Thank you for using the Camera Rental App. Exiting...");

System.*exit*(0);

**default**:

System.***out***.println("Invalid choice. Please try again.");

}

} **while** (**true**);

}

**private** **static** **void** showMyCameraMenu() {

Scanner scanner = **new** Scanner(System.***in***);

**int** choice;

**do** {

System.***out***.println("\n1. ADD");

System.***out***.println("2. REMOVE");

System.***out***.println("3. VIEW MY CAMERAS");

System.***out***.println("4. GO TO PREVIOUS MENU");

System.***out***.print("Enter your choice: ");

choice = scanner.nextInt();

scanner.nextLine();

**switch** (choice) {

**case** 1:

*addCamera*();

**break**;

**case** 2:

*removeCamera*();

**break**;

**case** 3:

*viewMyCameras*();

**break**;

**case** 4:

**return**;

**default**:

System.***out***.println("Invalid choice. Please try again.");

}

} **while** (**true**);

}

**private** **static** **void** addCamera() {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.print("\nENTER THE CAMERA BRAND: ");

String brand = scanner.nextLine();

System.***out***.print("ENTER THE MODEL: ");

String model = scanner.nextLine();

System.***out***.print("ENTER THE PER DAY PRICE(INR): ");

**double** rentalPrice = scanner.nextDouble();

**int** nextId = *cameraList*.size() + 1;

Camera camera = **new** Camera(nextId, brand, model, rentalPrice, **false**);

*cameraList*.add(camera);

System.***out***.println("YOUR CAMERA HAS BEEN SUCCESSFULLY ADDED TO THE LIST.");

}

**private** **static** **void** removeCamera() {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.println("===============================================================================");

System.***out***.println("CAMERA ID\tBRAND\t\tMODEL\t\tPRICE(PER DAY)\tSTATUS");

System.***out***.println("===============================================================================");

**for** (Camera camera : *cameraList*) {

System.***out***.println(camera.getId() + "\t\t" +

camera.getBrand() + "\t\t" +

camera.getModel() + "\t\t" +

camera.getRentalPrice() + "\t\t" +

(camera.isRented() ? "Rented" : "Available"));

}

System.***out***.println("===============================================================================");

System.***out***.print("\nENTER THE CAMERA ID TO REMOVE: ");

**int** cameraID=scanner.nextInt();

scanner.nextLine();

**boolean** removed = **false**;

**for**(Camera camera: *cameraList*) {

**if**(camera.getId()==cameraID) {

*cameraList*.remove(camera);

removed = **true**;

**break**;

}

}

**if**(removed) {

System.***out***.println("CAMERA SUCCESSFULLY REMOVED FROM THE LIST.");

}

**else** {

System.***out***.println("CAMERA NOT FOUND.");

}

}

**private** **static** **void** viewMyCameras() {

List<Camera> cameraList = *currentUser*.getCameraList();

System.***out***.println("\nMY CAMERAS");

System.***out***.println("===============================================================================");

System.***out***.println("CAMERA ID\tBRAND\t\tMODEL\t\tPRICE(PER DAY)\tSTATUS");

System.***out***.println("===============================================================================");

**boolean** foundRentedCamera = **false**;

**for** (Camera camera : cameraList) {

**if** (camera.isRented()) {

System.***out***.println(camera.getId()+ "\t\t" +

camera.getBrand()+ "\t\t" +

camera.getModel()+ "\t\t" +

(camera.getRentalPrice()+ "\t\t" + "Rented"));

foundRentedCamera = **true**;

}

}

**if** (!foundRentedCamera) {

System.***out***.println("No rented cameras found.");

}

}

**private** **static** **void** rentCamera() {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.println("\nFollowing is the list of available cameras");

System.***out***.println("CAMERA ID\tBRAND\t\tMODEL\t\tPRICE(PER DAY)\tSTATUS");

**for** (Camera camera : *cameraList*) {

**if** (!camera.isRented()) {

System.***out***.println(camera.getId() + "\t\t" +

camera.getBrand() + "\t\t" +

camera.getModel() + "\t\t" +

camera.getRentalPrice() + "\t\t" +

(camera.isRented() ? "Rented" : "Available"));

}

}

System.***out***.println("===============================================================================");

System.***out***.print("\nENTER THE CAMERA ID YOU WANT TO RENT: ");

**int** cameraId = scanner.nextInt();

Camera selectedCamera = **null**;

**for** (Camera camera : *cameraList*) {

**if** (camera.getId() == cameraId) {

selectedCamera = camera;

**break**;

}

}

**if** (selectedCamera != **null** && !selectedCamera.isRented()) {

**if** (*currentUser*.getWalletBalance() >= selectedCamera.getRentalPrice()) {

selectedCamera.setRented(**true**);

*currentUser*.getCameraList().add(selectedCamera);

*currentUser*.depositToWallet(-selectedCamera.getRentalPrice());

System.***out***.println("YOUR TRANSACTION FOR CAMERA - " + selectedCamera.getBrand() +

" " + selectedCamera.getModel() + " with rent INR." +

selectedCamera.getRentalPrice() + " HAS SUCCESSFULLY COMPLETED.");

} **else** {

System.***out***.println("ERROR: TRANSACTION FAILED DUE TO INSUFFICIENT WALLET BALANCE. " +

"PLEASE DEPOSIT THE AMOUNT TO YOUR WALLET.");

}

} **else** {

System.***out***.println("ERROR: INVALID CAMERA ID OR CAMERA IS ALREADY RENTED.");

}

}

**private** **static** **void** viewAllCameras() {

System.***out***.println("===============================================================================");

System.***out***.println("CAMERA ID\tBRAND\t\tMODEL\t\tPRICE(PER DAY)\tSTATUS");

System.***out***.println("===============================================================================");

**for** (Camera camera : *cameraList*) {

System.***out***.println(camera.getId() + "\t\t" +

camera.getBrand() + "\t\t" +

camera.getModel() + "\t\t" +

camera.getRentalPrice() + "\t\t" +

(camera.isRented() ? "Rented" : "Available"));

}

System.***out***.println("===============================================================================");

}

**private** **static** **void** showWalletMenu() {

Scanner scanner = **new** Scanner(System.***in***);

System.***out***.println("\nOUR CURRENT WALLET BALANCE IS INR." + *currentUser*.getWalletBalance());

System.***out***.print("DO YOU WANT TO DEPOSIT MORE AMOUNT TO YOUR WALLET? (1.YES 2.NO): ");

**int** choice = scanner.nextInt();

**switch** (choice) {

**case** 1:

System.***out***.print("ENTER THE AMOUNT (INR): ");

**double** amount = scanner.nextDouble();

*currentUser*.depositToWallet(amount);

System.***out***.println("YOUR WALLET BALANCE UPDATED SUCCESSFULLY. CURRENT WALLET BALANCE - INR." +

*currentUser*.getWalletBalance());

**break**;

**case** 2:

**break**;

**default**:

System.***out***.println("Invalid choice. Going back to previous menu.");

**break**;

}

}

**private** **static** **void** exit() {

System.***out***.println("Thank you for using the Camera Rental App. Exiting...");

System.*exit*(0);

}

}

**class** Userinfo {

**private** String username;

**private** String password;

**private** List<Camera> cameraList;

**private** **double** walletBalance;

**public** Userinfo(String username, String password) {

**this**.username = username;

**this**.password = password;

**this**.cameraList = **new** ArrayList<>();

**this**.walletBalance = 2000.0;

}

**public** String getUsername() {

**return** username;

}

**public** String getPassword() {

**return** password;

}

**public** List<Camera> getCameraList() {

**return** cameraList;

}

**public** **double** getWalletBalance() {

**return** walletBalance;

}

**public** **void** addCamera(Camera camera) {

cameraList.add(camera);

}

**public** **void** removeCamera(**int** cameraId) {

Camera camera = getCameraById(cameraId);

**if** (camera != **null**) {

cameraList.remove(camera);

}

}

**public** Camera getCameraById(**int** cameraId) {

**for** (Camera camera : cameraList) {

**if** (camera.getId() == cameraId) {

**return** camera;

}

}

**return** **null**;

}

**public** **void** depositToWallet(**double** amount) {

walletBalance += amount;

}

}

**class** Camera {

**private** **int** id;

**private** String brand;

**private** String model;

**private** **double** rentalPrice;

**private** **boolean** rented;

**public** Camera(**int** id, String brand, String model, **double** rentalPrice, **boolean** rented) {

**this**.id = id;

**this**.brand = brand;

**this**.model = model;

**this**.rentalPrice = rentalPrice;

**this**.rented = rented;

}

**public** **int** getId() {

**return** id;

}

**public** String getBrand() {

**return** brand;

}

**public** String getModel() {

**return** model;

}

**public** **double** getRentalPrice() {

**return** rentalPrice;

}

**public** **boolean** isRented() {

**return** rented;

}

**public** **void** setRented(**boolean** rented) {

**this**.rented = rented;

}

}