import java.util.\*;

class Stock {

private String name;

private double price;

public Stock(String name, double price) {

this.name = name;

this.price = price;

}

public String getName() { return name; }

public double getPrice() { return price; }

}

class User {

private String username;

private double balance;

private Map<String, Integer> portfolio = new HashMap<>();

public User(String username, double balance) {

this.username = username;

this.balance = balance;

}

public void buyStock(Stock stock, int quantity) {

double cost = stock.getPrice() \* quantity;

if (balance >= cost) {

balance -= cost;

portfolio.put(stock.getName(), portfolio.getOrDefault(stock.getName(), 0) + quantity);

System.out.println("\n✅ " + quantity + " shares of " + stock.getName() + " purchased!");

} else {

System.out.println("\n❌ Insufficient balance. Purchase failed.");

}

}

public void sellStock(Stock stock, int quantity) {

String name = stock.getName();

if (portfolio.containsKey(name) && portfolio.get(name) >= quantity) {

balance += stock.getPrice() \* quantity;

portfolio.put(name, portfolio.get(name) - quantity);

if (portfolio.get(name) == 0) {

portfolio.remove(name);

}

System.out.println("\n✅ " + quantity + " shares of " + name + " sold!");

} else {

System.out.println("\n❌ Not enough shares to sell.");

}

}

public void showPortfolio(Map<String, Stock> market) {

System.out.println("\n========= 📊 Portfolio Summary =========");

System.out.println("👤 Username : " + username);

System.out.printf("💰 Balance : ₹%.2f\n", balance);

System.out.println("📦 Holdings:");

if (portfolio.isEmpty()) {

System.out.println(" - No stocks currently owned.");

} else {

for (Map.Entry<String, Integer> entry : portfolio.entrySet()) {

String stockName = entry.getKey();

int qty = entry.getValue();

double price = market.get(stockName).getPrice();

double total = price \* qty;

System.out.printf(" - %s: %d shares @ ₹%.2f each → ₹%.2f\n", stockName, qty, price, total);

}

}

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

}

}

public class StockTradingApp {

private static Map<String, Stock> market = new HashMap<>();

public static void loadMarket() {

market.put("TCS", new Stock("TCS", 3320.00));

market.put("INFY", new Stock("INFY", 1475.50));

market.put("RELIANCE", new Stock("RELIANCE", 2540.75));

market.put("HDFC", new Stock("HDFC", 2815.00));

market.put("WIPRO", new Stock("WIPRO", 405.25));

}

public static void showMarket() {

System.out.println("\n======== 📈 Live Stock Market ========");

System.out.printf("%-10s%-15s\n", "Stock", "Price (₹)");

for (Stock stock : market.values()) {

System.out.printf("%-10s₹%-15.2f\n", stock.getName(), stock.getPrice());

}

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

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

loadMarket();

System.out.print("👋 Enter your name: ");

String name = sc.nextLine();

User user = new User(name, 10000.00);

int choice;

do {

System.out.println("\n===== 💼 Stock Trading Console App =====");

System.out.println("1️⃣ View Stock Market");

System.out.println("2️⃣ Buy Stock");

System.out.println("3️⃣ Sell Stock");

System.out.println("4️⃣ View Portfolio");

System.out.println("5️⃣ Exit");

System.out.print("👉 Enter your choice (1-5): ");

choice = sc.nextInt();

sc.nextLine(); // consume newline

switch (choice) {

case 1:

showMarket();

break;

case 2:

showMarket();

System.out.print("🔍 Enter stock name to buy: ");

String buyName = sc.nextLine().toUpperCase();

if (market.containsKey(buyName)) {

System.out.print("📦 Enter quantity: ");

int qty = sc.nextInt();

user.buyStock(market.get(buyName), qty);

} else {

System.out.println("❌ Stock not found.");

}

break;

case 3:

System.out.print("🔍 Enter stock name to sell: ");

String sellName = sc.nextLine().toUpperCase();

if (market.containsKey(sellName)) {

System.out.print("📦 Enter quantity: ");

int sellQty = sc.nextInt();

user.sellStock(market.get(sellName), sellQty);

} else {

System.out.println("❌ Stock not found.");

}

break;

case 4:

user.showPortfolio(market);

break;

case 5:

System.out.println("\n👋 Thank you for trading! Goodbye!");

break;

default:

System.out.println("⚠️ Invalid input. Please choose between 1 and 5.");

}

} while (choice != 5);

sc.close();

}

}