// ATM SIMULATOR

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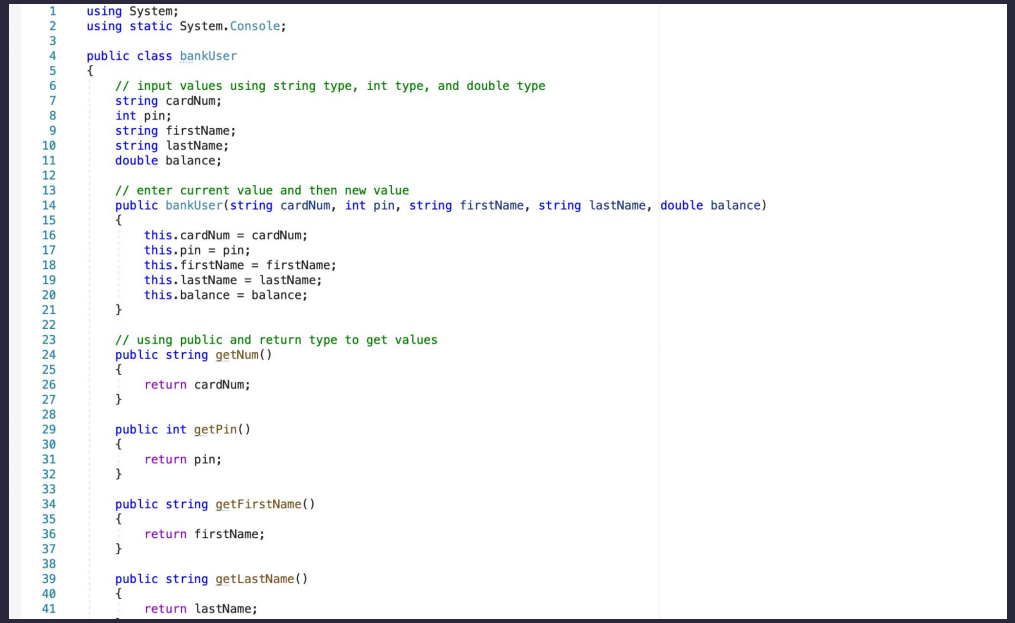
//The goal

To demonstrate the basics of using a debit card at an ATM.

// FUNCTIONS

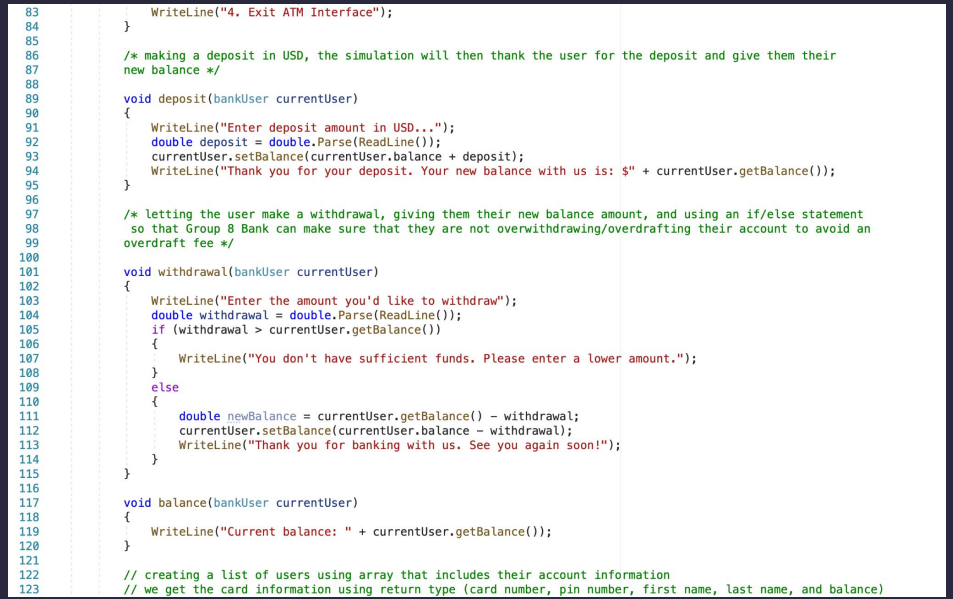
- Make deposits
- Make withdrawals
- Check Balance
- Terminate/Exit when finished

// Our code



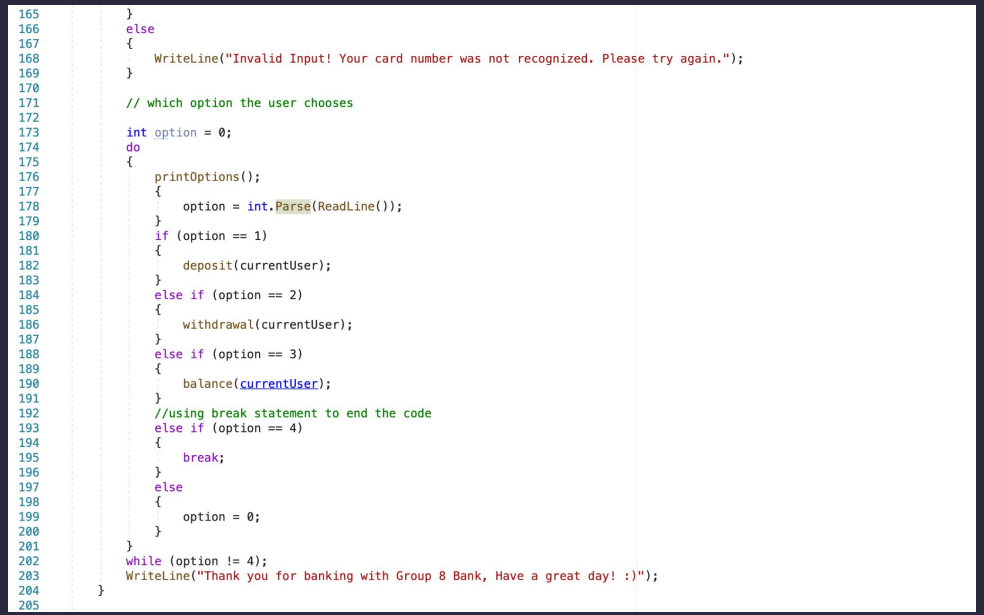
```
using System;
using static System.Console;

public class bankUser
{
    // input values using string type, int type, and double type
    string cardNum;
    int pin;
    string firstName;
    string lastName;
    double balance;

    // enter current value and then new value
    public bankUser(string cardNum, int pin, string firstName, string lastName, double balance)
    {
        this.cardNum = cardNum;
        this.pin = pin;
        this.firstName = firstName;
        this.lastName = lastName;
        this.balance = balance;
    }

    // using public and return type to get values
    public string getNum()
    {
        return cardNum;
    }

    public int getPin()
    {
        return pin;
    }

    public string getFirstName()
    {
        return firstName;
    }

    public string getLastName()
    {
        return lastName;
```

```
    }

    public double getBalance()
    {
        return balance;
    }

    public void setNum(string newCardNum)
    {
        cardNum = newCardNum;
    }

    public void setPin(int newPin)
    {
        pin = newPin;
    }

    public void setFirstName(string newFirstName)
    {
        firstName = newFirstName;
    }

    public void setLastName(string newLastName)
    {
        lastName = newLastName;
    }

    public void setBalance(double newBalance)
    {
        balance = newBalance;
    }

    public static void Main(string[] args)
    {
        // creating the display menu for the ATM simulation
        void printOptions()
        {
            WriteLine("Please choose from one of the following...");
            WriteLine("1. Make a deposit");
            WriteLine("2. Make a withdrawal");
            WriteLine("3. Check my balance");
```



```
83              WriteLine("4. Exit ATM Interface");
84          }
85
86          /* making a deposit in USD, the simulation will then thank the user for the deposit and give them their
87          new balance */
88
89          void deposit(bankUser currentUser)
90          {
91              WriteLine("Enter deposit amount in USD...");
92              double deposit = double.Parse(ReadLine());
93              currentUser.setBalance(currentUser.balance + deposit);
94              WriteLine("Thank you for your deposit. Your new balance with us is: $" + currentUser.getBalance());
95          }
96
97          /* letting the user make a withdrawal, giving them their new balance amount, and using an if/else statement
98           so that Group 8 Bank can make sure that they are not overwithdrawing/overdrafting their account to avoid an
99          overdraft fee */
100
101         void withdrawal(bankUser currentUser)
102         {
103             WriteLine("Enter the amount you'd like to withdraw");
104             double withdrawal = double.Parse(ReadLine());
105             if (withdrawal > currentUser.getBalance())
106             {
107                 WriteLine("You don't have sufficient funds. Please enter a lower amount.");
108             }
109             else
110             {
111                 double newBalance = currentUser.getBalance() - withdrawal;
112                 currentUser.setBalance(currentUser.balance - withdrawal);
113                 WriteLine("Thank you for banking with us. See you again soon!");
114             }
115         }
116
117         void balance(bankUser currentUser)
118         {
119             WriteLine("Current balance: " + currentUser.getBalance());
120         }
121
122         // creating a list of users using array that includes their account information
123         // we get the card information using return type (card number, pin number, first name, last name, and balance)
```

```
124
125         bankUser[] users = new bankUser[4];
126
127         users[0] = new bankUser("1122334455667788", 1234, "Sean", "Kang", 1000000.00);
128         users[1] = new bankUser("2223334445556667", 2345, "Hargun", "Rekhi", 10000.00);
129         users[2] = new bankUser("3334445556667778", 3456, "Michelle", "Asubonteng", 10000.00);
130         users[3] = new bankUser("4445556667778889", 4567, "Sharif", "Ford", 10000.00);
131
132         // simulation begins
133
134         WriteLine("--------Welcome to Group 8's ATM Simulator Game!!--------");
135         WriteLine("Please enter your debit card number: ");
136         string debitCardNum = ReadLine();
137         bankUser currentUser = null;
138
139         foreach (bankUser user in users)
140         {
141             if (user.cardNum == debitCardNum)
142             {
143                 currentUser = user;
144                 break;
145             }
146         }
147
148         //prompts the user to enter their pin card
149
150         if (currentUser != null)
151         {
152
153             WriteLine("Please enter your pin number: ");
154             int userPin = Convert.ToInt32(ReadLine());
155
156             if (currentUser.getPin() == userPin)
157             {
158
159                 WriteLine("Hi there! Welcome to Group 8 ATM hub " + currentUser.getFirstName()  + " What would you like to do to
160             }
161             else
162             {
163                 WriteLine("Card not recognized. Please enter debit card again");
164             }
```



```
        }
        else
        {
            WriteLine("Invalid Input! Your card number was not recognized. Please try again.");
        }

        // which option the user chooses

        int option = 0;
        do
        {
            printOptions();
            {
                option = int.Parse(ReadLine());
            }
            if (option == 1)
            {
                deposit(currentUser);
            }
            else if (option == 2)
            {
                withdrawal(currentUser);
            }
            else if (option == 3)
            {
                balance(currentUser);
            }
            //using break statement to end the code
            else if (option == 4)
            {
                break;
            }
            else
            {
                option = 0;
            }
        }
        while (option != 4);
        WriteLine("Thank you for banking with Group 8 Bank, Have a great day! :)");
    }

```

//ILLUSTRATION