PROBLEM DESCRIPTION:

Online shopping cart is a virtual shopping trolley, where shoppers can put all of their want-to-buy products in, review to make adjustments in quantity, product attributes, etc., and remove it before or during the checkout if they change their mind.

DISTINGUISHING FEATURES:

I have tried to make the checks at login time as tight as possible. No user can enter the market without signing up or without signing in with correct email or password.

I have also included admin sign in feature. Admin can add or remove the product from market.

CHALLENGING PART:

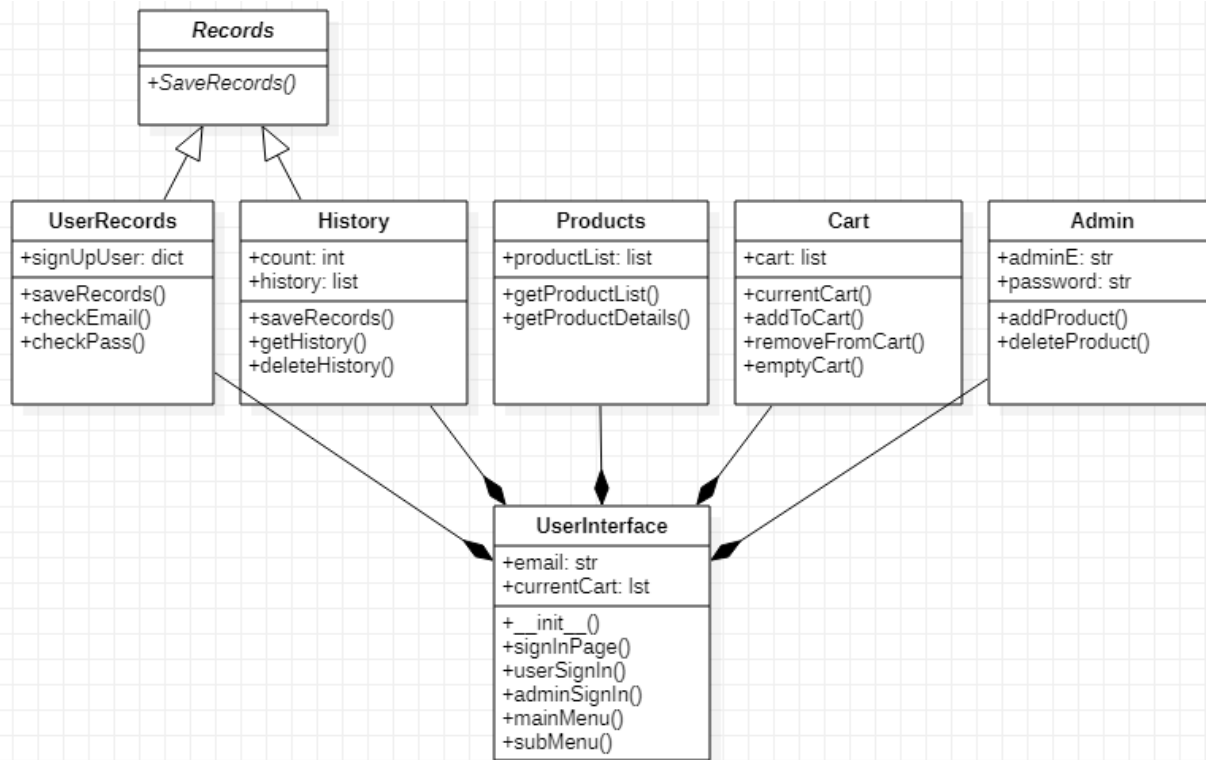The most challenging part which I feel was to relate all the classes in a UserInterface class.

ANY NEW THING LEARN:

No not so. As I have implemented all the already learned features of OOP in lectures and haven't gone for any external library except for time feature. But still it was a good experience to build such application first time.

FUTURE EXPANSION:

One of the expansion can be for graphical user interface (GUI)

FLOW OF PROJECT:

As can be seen from class diagram that both UserRecords and History are inheriting from Records. All other classes including these two classes are relate to UserInterface where methods of each class are called on the requirement.

TEST CASES:

1. All Admin possible cases are checked

```
=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====

1_ Sign in as User
2_ Sign in as Admin

Enter option number: 2

Enter admin email: admin@gmail.co

Incorrect email
Enter email again: admin@gmail.com
Enter password: abc

Incorrect password
Enter password again: 123

1_ Add product
2_ Remove product
3_ Sign out

Enter option number: 1

Enter product name: a
Enter color of product: a
Enter RAM in product: a
Enter price of product: 1
Product added!
```

```
Product added!

1_ Add product
2_ Remove product
3_ Sign out

Enter option number: 2

Enter name of product to delete: a

Product removed successfully!

1_ Add product
2_ Remove product
3_ Sign out

Enter option number: 4

Please select from given options

1_ Add product
2_ Remove product
3_ Sign out

Enter option number: 3


Process finished with exit code 0
```

2. a user sign up and just see product details

```
=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====

1_ Sign in as User
2_ Sign in as Admin

Enter option number: 1

Enter your email: a

Your email is not signed up!!!
1_ Re-enter the email
2_ Sign up

Enter option number: 1

Enter your email: a

Your email is not signed up!!!
1_ Re-enter the email
2_ Sign up

Enter option number: 2

Email: a
Password: 1

=====***** MAIN MENU *****=====
```

```
=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====********************=====


Enter option number: 2


=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====*********************=====


Enter option number: 1

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
    ***********************
```

```
1_ Product details
2_ Add to cart
3_ Back

Enter option number: 1
Enter Product number to see its details: 1

===**** PRODUCT 1 Details****===
color: Red
RAM: 8GB
price: 24800
=====********************=====



===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===************************===
```

```
1_ Product details
2_ Add to cart
3_ Back

Enter option number: 1
Enter Product number to see its details: 10

===**** PRODUCT 10 Details****===
color: red
RAM: 16GB
price: 17500
=====*********************=====


===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===***********************===
```

```
10_ Realme C1
===*************************===


1_ Product details
2_ Add to cart
3_ Back

Enter option number: 3

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====**********************=====


Enter option number: 3

=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====*********************=====


Enter option number: 3

Process finished with exit code 0
```

3. 'b' user sign up and add and remove products from cart

```
=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====


1_ Sign in as User
2_ Sign in as Admin


Enter option number: 1


Enter your email: b


Your email is not signed up!!!
1_ Re-enter the email
2_ Sign up


Enter option number: 2


Email: b
Password: 2


=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====********************=====


Enter option number: 2


=====****** PRODUCTS ******=====
```

```
=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====*********************=====


Enter option number: 2

=====***** YOUR CART *****=====
Empty :\
=====*********************=====


1_ Remove from cart
2_ Empty cart
3_ Back

Enter option number: 1
Your cart is empty!!!

=====***** YOUR CART *****=====
Empty :\
=====*********************=====


1_ Remove from cart
2_ Empty cart
3_ Back
```

```
Enter option number: 2
Your cart is already empty!!!

=====***** YOUR CART *****=====
Empty :\
=====*********************=====

1_ Remove from cart
2_ Empty cart
3_ Back

Enter option number: 3

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====*********************=====

Enter option number: 1

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
```

```
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===*************************===


1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 1
Product added!

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===*************************===
```

```
1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 2
Product added!

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===*************************===

1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 3
Product added!
```

```
===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===*********************===

1_ Product details
2_ Add to cart
3_ Back

Enter option number: 3

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====*********************=====

Enter option number: 2
```

```
=====***** YOUR CART *****=====
1_ Realme 5i
2_ Realme C3
3_ Realme XT
=====*********************=====


1_ Remove from cart
2_ Empty cart
3_ Back

Enter option number: 1
Enter cart number to remove from cart: 1
Product removed!

=====***** YOUR CART *****=====
1_ Realme C3
2_ Realme XT
=====*********************=====


1_ Remove from cart
2_ Empty cart
3_ Back

Enter option number: 2

=====***** YOUR CART *****=====
Empty :\
     *********************
```

```
Empty :\
=====*********************=====


1_ Remove from cart
2_ Empty cart
3_ Back

Enter option number: 3


=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====**********************=====


Enter option number: 3


=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====**********************=====


Enter option number: 3


Process finished with exit code 0
```

4. 'a' user sign in with wrong password then with correct pass and do some shopping

```
=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====

1_ Sign in as User
2_ Sign in as Admin

Enter option number: abcdefghi

Please select from given options

=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====

1_ Sign in as User
2_ Sign in as Admin

Enter option number: 1

Enter your email: a

Enter your password: 2
Password not match

Enter your password: 1

=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
-----********************-----
```

```
Enter option number: 1

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====********************=====

Enter option number: 1

You have not buy anything!

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====********************=====

Enter option number: 2

Your history is empty!

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====********************=====
```

```
Enter option number: 3


=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====********************=====

Enter option number: 2

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====*********************=====

Enter option number: 1

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
```

```
8_ Realme 6
9_ Realme C2
10_ Realme C1
===************************===


1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 1
Product added!

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===************************===


1_ Product details
```

```
1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 2
Product added!

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===***************************===

1_ Product details
2_ Add to cart
3_ Back

Enter option number: 3
```

```
Enter option number: 3

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====*********************=====

Enter option number: 3

=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====*********************=====

Enter option number: 3

Process finished with exit code 0
```

5. 'a' user again sign in do some shopping after seeing his previous history

```
=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====

1_ Sign in as User
2_ Sign in as Admin

Enter option number: 1

Enter your email: a

Enter your password: 1

=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====*********************=====

Enter option number: 1

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====*********************=====

Enter option number: 1
```

```
Enter option number: 1


Time and Date: 01/09/2020 00:28:23
Realme 5i,Realme C3



=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====********************=====


Enter option number: 3



=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====********************=====


Enter option number: 2

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====********************=====
```

```
Enter option number: 1

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===*************************===

1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 5
Product added!

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
```

```
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
===************************===

1_ Product details
2_ Add to cart
3_ Back

Enter option number: 2
Enter product number to add to cart: 9
Product added!

===*** AVAILABLE PRODUCTS ***===
1_ Realme 5i
2_ Realme C3
3_ Realme XT
4_ Realme 6i
5_ Realme C11
6_ Realme C12
7_ Realme 5
8_ Realme 6
9_ Realme C2
10_ Realme C1
```

```
  10_ Realme C1
  ===************************===


 1_ Product details
 2_ Add to cart
 3_ Back


 Enter option number: 3


 =====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====************************=====


 Enter option number: 2


 =====***** YOUR CART *****=====
1_ Realme C11
2_ Realme C2
=====***********************=====


1_ Remove from cart
2_ Empty cart
3_ Back


 Enter option number: 3
```

```
Enter option number: 3

=====****** PRODUCTS ******=====
1_ Available Products
2_ Current Cart
3_ Back
=====************************=====

Enter option number: 3

=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====***********************=====

Enter option number: 3


Process finished with exit code 0
```

6. 'a' user sign in to see his histories and then clear his history

```
=====***** WELCOME TO ZEE VIRTUAL MOBILE MARKET *****=====

1_ Sign in as User
2_ Sign in as Admin

Enter option number: 1

Enter your email: a

Enter your password: 1

=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====*********************=====

Enter option number: 1

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====*********************=====

Enter option number: 1
```

```
Enter option number: 1

Time and Date: 01/09/2020 00:28:23
Realme 5i,Realme C3

Time and Date: 01/09/2020 00:31:52
Realme C11,Realme C2


=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====********************=====

Enter option number: 2

History deleted successfully!!!

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====********************=====

Enter option number: 1
```

```
Enter option number: 1

You have not buy anything!

=====****** HISTORY ******=====
1_ View History
2_ Delete History
3_ Back
=====*********************=====

Enter option number: 3


=====***** MAIN MENU *****=====
1_ Shopping History
2_ Products
3_ Check out
=====*********************=====

Enter option number: 3

Process finished with exit code 0
```