CS-Project Documentation

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This file presents the key features of the code, basic requirements to run the code and also a user-manual for basic instructions to run the code.

About the code:
We have written a code for an e-commerce facility named - BIGG SALEZ.
Using this program people can buy products which are updated after every complete sale.
There are different login accounts for admins and users. New users can register.
Admins have the power to add, delete or update products as per the requirement.
Users can only browse through the products and buy the products. A search facility for searching products using unique product ID(s) is included for both admins as well as users. This e-commerce facility offers two modes of receiving the product. Either in-store pickup or Home-delivery. Both ways need to select a slot of time for convenience. Home delivery is available only in certain areas which will be shown in a list.

Recommended system requirements:
- Windows 10/11 or MacOS [Monterey]
- Intel core i3 (8th-gen) or higher processor. (Or any other competing processor.)
- 4 GB or higher RAM
- GNU Compiler Collection – 11 [gcc-11].
  Note: gcc may already be installed in your PC.

Modularisation of the code:
We have elegantly divided the code into different modules (functions), with apt names, which makes it easier to see what is actually going on in the program at each important step.
I would like to mention that **all, four of us, have put equal effort** to make this e-commerce system.
We have made different modules for almost every step such as:
- Displaying Home-Page.
- Checking real date.
- Updating van status every time program runs.
- Universal modules as check_ID.

And many more...
This kind of modularisation helped us to divide work properly and complete the code efficiently.

The main() function only had to call the front page and a few modules that are required to run every time the program is used. Our e-commerce facility uses a file handling system in C, that enables us to update various files, every time a user or an admin does any changes such as buying a product(s) or booking a van for delivery, etc. Every time the program is used, current files are loaded with stocks and availability of van, etc.

We have divided the program into 43 modules.

The modules made by each of us have the initials of our first and last name in front of their declaration as shown in the picture below: [Also present in the main code]

```
51  //-----------------------------------------------------------------
52  //Functions/Modules:
53  void real_date(); //0                                                    >> [SG]
54  void frontpage(); //1                                                    >> [AS], [FA], [AJ], [SG]
55  void selectionpage(); //2                                                >> [FA]
56  int check_credentials(char* filename, char* uname, char* pswd); //3      >> [AS]
57  void fileWrite(char* filename, CREDENTIALS* info, int no_of_fields); //4 >> [AS]
58  void fileWrite1(char* filename, CREDENTIALS* info, int nof); //5         >> [AJ]
59  void fileWrite2(char* filename, PRODUCT* info, int no_of_fields); //6    >> [SG]
60  int checkID(char* filename, char* id); //7                               >> [AS]
61  void load_admin(); //8                                                   >> [AJ]
62  void load_userInfo(); //9                                                >> [FA]
63  void load_products(); //10                                               >> [SG]
64  void loginpage(); //11                                                   >> [AJ]
65  void adminpage(); //12                                                   >> [FA]
66  void adminpage2(); //13                                                  >> [AS], [FA]
67  void signup(); //14                                                      >> [AJ]
68  void new_user(char* fname, CREDENTIALS* info, int nof); //15             >> [SG], [AJ]
69  void updatePage(); //16                                                  >> [AS], [AJ]
70  void updatePage2(char* filename, char* id);  //17                        >> [AS]
71  void updateProduct(char *filename, char *id, int new_stock, float new_price); //18  >> [AS]
72  void deletionPg(); //19                                                  >> [AJ]
73  void deletion(char* filename, char* id); //20                            >> [SG]
74  const char* timing(); //21                                               >> [FA]
75  void load_vans(); //22                                                   >> [SG]
76  void fileWrite3(char* filename, VAN* info, int no_of_fields); //23       >> [SG]
77  void update_vans(); //24                                                 >> [SG], [AJ]
78  int van_avail_check(); //25                                              >> [SG], [FA]
79  void reserve_van(char* id); //26                                         >> [SG]
80  int modeofpurchase(); //27                                               >> [AJ]
81  const char* address(); //28                                              >> [AJ]
82  void browse_products(); //29                                             >> [FA]
83  void cart(PRODUCT* info, int len_of_info); //30                          >> [AS], [SG]
84  PURCHASE buyProduct(); //31                                              >> [AS]
85  void fileWrite4(char* filename, PRODUCT* info, int no_of_fields);  //32  >> [FA]
86  void addition_products(); //33                                           >> [FA]
87  PRODUCT checkID2(char* filename, char* id); //34                         >> [AS]
88  void search(char* filename, char* id); //35                              >> [AS], [FA]
89  void checkout(PRODUCT *info, int len_of_info); //36                      >> [AS], [SG]
90  void checkout2(PRODUCT *info, int len_of_info); //37                     >> [AS], [SG]
91  void thankyou1(); //38                                                   >> [SG]
92  void updateProduct2(char *filename, char *id, int user_stock); //39      >> [AS]
93  void read_vans(); //40                                                   >> [SG], [FA]
94  void unique_id_check(); //41                                             >> [AS], [AJ]
95  void thankyou2(); //42                                                   >> [AJ], [FA]
96  //-----------------------------------------------------------------
```

USER-MANUAL:

To run the program: Either compile the code in terminal and run the exe file (Recommended) Run this code by opening the terminal in the same directory containing the .c file: <gcc "CS Project.c" -o "CS Project"> and run "CS Project.exe" or use the .exe file provided in the zip file.

The Home Page will display as shown in the following screenshot. Instruction for the home page is written in the Home Page itself.

After pressing Enter/Return you'll go to a page to choose login/signup.
Instructions to do that will be displayed on the page itself.

Choose '1' or '2' as per requirement:

Once you press '2' and press Enter/Return you'll be taken to page where you'll have to input your name, choose a username and password as shown in the figure.

If the username is already taken then you'll have to enter the credentials again with another username.

```
                    + + + + + + + + + + + + + + + + + +
                    +            BIGG SALEZ            +
                    + + + + + + + + + + + + + + + + + +
   _____

                         New User Sign-up
                    _____
   _____


   >>Input the following credentials:


                         >> Name: TEST NAME

                         >> Username: testuser2

                         >> Password: testpswd2_
```

Once you have put your credentials, you will be redirected to the homepage from where you can go to login page.

In the login page you will have to input username and password to login as shown in the next screenshot.

```
                    + + + + + + + + + + + + + + + + + + +
                    +             BIGG SALEZ             +
                    + + + + + + + + + + + + + + + + + + +
   _____

                           USER LOGIN
                    _____
   _____

                       >>> Username: testuser2

                       >>> Password: testpswd2

   Welcome TEST NAME!!
           Press 1 to Search products using 'Product ID' OR press 2 to go to browse page:
```

Press '1' to search a product using a unique product ID. If the ID matches a product, its details will be displayed else you'll have to select search ID or browse products again.

```
+ + + + + + + + + + + + + + + + + + +
+              BIGG SALEZ              +
+ + + + + + + + + + + + + + + + + + +
_____

                        USER LOGIN
                _____

_____

               >>> Username: testuser2

               >>> Password: testpswd2

     Welcome TEST NAME!!
          Press 1 to Search products using 'Product ID' OR press 2 to go to browse page: 1

          Enter Product ID: BAG0000001
          Product details:
          1. Product ID = BAG0000001
          2. Product Name = Trolly Bag
          3. Product Price = 2568.70
          4. Product Color = Blue & Red
          5. Product Description = Durable bags good for long distance travelling
          6. Product Quantity = 10


          Press Enter/Return to choice selection:

          Press 1 to Search products using 'Product ID' OR press 2 to go to browse page: _
```

Press '2' to go to browse products page which is as displayed below:

```
+ + + + + + + + + + + + + + + + + + +
+              BIGG SALEZ              +
+ + + + + + + + + + + + + + + + + + +
_____
                                                        Hi TEST NAME!
_____

Product ID = WATCH00001
Product Name = SWATCH X1 Ultra slim watch
Product Price = 4000.00
Products Remaining = 72
Product Colour = BLACK
Product Description = Elegant, ultra slim, black round-dial watch for men with date and day dial.
_____


Product ID = MACBO00001
Product Name = MacBook Pro 13-inch, intel core-i5
Product Price = 157000.00
Products Remaining = 528
Product Colour = SILVER
Product Description = Apple authorised online reseller.
_____


Product ID = BOOKS00001
Product Name = Classical Mechanics [Goldstein]
Product Price = 859.68
Products Remaining = 95
Product Colour = -
Product Description = Paper-back 3rd edition.
_____
```

```
Product ID = CAR0000001
Product Name = HOTWHEELS
Product Price = 500.50
Products Remaining = 27
Product Colour = Flame Red
Product Description = Stylish and durable toy car for kids


Product ID = BAG0000001
Product Name = Trolly Bag
Product Price = 2568.70
Products Remaining = 10
Product Colour = Blue & Red
Product Description = Durable bags good for long distance travelling


Enter the number of different products you want to purchase:
```

In this page, if you want to add products to your cart, first type the number of different products that you want to add to your cart. Suppose you want to buy 10 WATCHES and 2 BOOKS then the number of different products to be written should be '2'.

The rest instructions in the code are self-explanatory.

```
Enter the number of different products you want to purchase: 2

Enter Product ID: WATCH00001
Enter Quantity: 10

Enter Product ID: BOOKS00001
Enter Quantity: 2
```

After writing the products you want to add in your cart you will be directed to the next page where the products in your cart will be displayed as follows:

```
                    + + + + + + + + + + + + + + + + + +
                    +              BIGG SALEZ           +
                    + + + + + + + + + + + + + + + + + +
        _____
                                                            Hi TEST NAME!

    >>> Products in your cart are:

    >> Product [1]:
          > ID: WATCH00001
          > Name: SWATCH X1 Ultra slim watch
          > Quantity: 10
          > Price for 10: 40000.00
        _____
    >> Product [2]:
          > ID: BOOKS00001
          > Name: Classical Mechanics [Goldstein]
          > Quantity: 2
          > Price for 2: 1719.36
        _____
    >> Subtotal: 41719.36
    >> GRAND TOTAL: 46725.68  [Inclusive of 12 percent Tax and all charges.]

>>> Press 1 <followed by enter/return> to proceed or any other key to go back to browsing:
```

If you want to proceed to checkout press '1' or go back to browsing products where you'll have to add products all over again.

After pressing '1' you'll have to select either pick the product in-store or get it delivered to your home by pressing the corresponding number.

```
                    + + + + + + + + + + + + + + + + + +
                    +              BIGG SALEZ           +
                    + + + + + + + + + + + + + + + + + +
        _____
                                                            Hi Sidharth!

        >> Choose your preferred mode of purchase:
                                  _____

                          >> Take-away/collect-from-store    [1]

                          >> Home delivery                   [2]
                                  _____

    >>> Enter Choice: _
```

For example, here we choose to get the product delivered to our home.
Choose the area where you live, if it is not listed then the product is not deliverable to your location, and you'll have to pick it up in-store.

```
                 + + + + + + + + + + + + + + + + + + +
                 +              BIGG SALEZ            +
                 + + + + + + + + + + + + + + + + + + +
_____
                                                        Hi Sidharth!

      >> Choose your preferred address for delivery:
                          _____

                 >> Boring Road, Patna         [1]

                 >> Sector 62, Noida           [2]

                 >> Vasant Vihar, New Delhi    [3]

                 >> Howrah, Kolkata            [4]
                          _____

_____
   >>> Enter Choice: _
```

For example, we choose Howrah, Kolkata [4].

```
                 + + + + + + + + + + + + + + + + + + +
                 +              BIGG SALEZ            +
                 + + + + + + + + + + + + + + + + + + +
_____
                                                        Hi Sidharth!

      >> Choose your preferred timing of delivery:
                          _____
                    >> 09:00 a.m. to 01:00 p.m.   [1]

                    >> 12:00 noon to 05:00 p.m.   [2]

                    >> 03:00 p.m. to 07:00 p.m.   [3]
                          _____

_____
   >>> Enter Choice:
```

Now we choose a preferred timing of delivery.
Let us choose 9:00 a.m. to 01:00 p.m. by pressing '1'.
After this the page will show: "Press enter to check availability of a van." which is self-explanatory.
After pressing enter the screen will display "A van is available!" if a van is available or else, you'll have to try for home delivery on another day. Since we deliver orders the very next day, we do not accept orders for days later than that.

```
+ + + + + + + + + + + + + + + + + +
+              BIGG SALEZ           +
+ + + + + + + + + + + + + + + + + +
                                                                    Hi Sidharth!

        >> Choose your preferred timing of delivery:
                            >> 09:00 a.m. to 01:00 p.m.    [1]

                            >> 12:00 noon to 05:00 p.m.    [2]

                            >> 03:00 p.m. to 07:00 p.m.    [3]


    >>> Enter Choice: 2


        Press Enter/Return to check availability of a van.

        A van is available!
        Press 1 to proceed to checkout or anything else to go to browse products.
```

Press '1' to proceed to input your complete address where you live in the area selected (Howrah, Kolkata).
Press Enter/Return after typing your complete address.

```
+ + + + + + + + + + + + + + + + + +
+              BIGG SALEZ           +
+ + + + + + + + + + + + + + + + + +

Hi TEST NAME

        >> Input your complete address: RANDOM ADDRESS, RANDOM ROAD, HOWRAH PIN 7000002
```

After pressing enter the screen will display the final checkout page where you'll have to confirm checkout by pressing '1'.

```
                    + + + + + + + + + + + + + + + + +
                    +           BIGG SALEZ           +
                    + + + + + + + + + + + + + + + + +
        _____

 Hi TEST NAME

             >> Input your complete address: RANDOM ADDRESS, RANDOM ROAD, HOWRAH PIN 7000002
Your chosen time of delivery is: 09:00 a.m. to 01:00 p.m.
Your chosen area of delivery is: Howrah, Kolkata
                     >> Your final bill is as displayed:
    _____

    >> Product [1]:
         > ID: WATCH00001
         > Name: SWATCH X1 Ultra slim watch
         > Quantity: 10
         > Price for 10: 40000.00
    _____
    >> Product [2]:
         > ID: BOOKS00001
         > Name: Classical Mechanics [Goldstein]
         > Quantity: 2
         > Price for 2: 1719.36
    _____
    >> Subtotal: 41719.36
    >> GRAND TOTAL: 46725.68  [Inclusive of 12 percent Tax and all charges.]
    _____

    >> Press 1 to confirm Checkout or any other key to go to home page.
    >>
```

After confirming checkout, the screen will display a thank you page as displayed:

```
                    + + + + + + + + + + + + + + + + +
                    +           BIGG SALEZ           +
                    + + + + + + + + + + + + + + + + +
        _____

        >> Thank You for using our services. We are happy to serve you! Hope to see you soon again :D


        >> The product(s) will be delivered at RANDOM ADDRESS, RANDOM ROAD, HOWRAH PIN 7000002 by tomorrow
           during 09:00 a.m. to 01:00 p.m..

 Your smile is most precious :D                                            FIND IT. LOVE IT. BUY IT.
```

Our delivery valet will accept both cash/card payment but only card payment for orders above 5000.00 INR.

Once checkout is confirmed, the stocks in the products file are automatically updated and a delivery van is automatically reserved for the next day.
Take-Away checkout is similar, the only difference is it won't book a van or ask for your address.
Press Enter/Return to go back to Home Page.

---< End of User-Manual>---

Manual for registered Admins:

To run the program: Either compile the code in terminal and run the exe file (Recommended) Run this code by opening the terminal in the same directory containing the .c file: <gcc "CS Project.c" -o "CS Project"> and run "CS Project.exe" or use the .exe file provided in the zip file.

The Home Page will display as shown in the following screenshot. Instruction for the home page is written in the Home Page itself.


```
  https://www.biggsalez.com

  >> Special student-discount on Laptops, Kindles and Tablets!!

                              + + + + + + + + + + + + + + + + + +
                              +             BIGG SALEZ          +
                              + + + + + + + + + + + + + + + + + +

                                                    FIND IT, LOVE IT, BUY IT!


      _____

      > We are extremely excited to serve you!
      > We ensure cheapest online prices!
      > Your smile is most valuable :D
      _____


                                                    >> Use Code:AFSA for discount upto 50 percent.
  For Customer Support e-mail at: support@biggsalez.com   * Terms and Conditions apply.


                    >> Press Enter/Return to go to log in/sign up page.
                        >>>_
```

After pressing Enter/Return you'll go to a page to choose login/signup.
Instructions to do that will be displayed on the page itself.


```
                              + + + + + + + + + + + + + + + + + +
                              +             BIGG SALEZ          +
                              + + + + + + + + + + + + + + + + + +
      _____

                              _____
                              >> User Log-in         [1]

                              >> New User Sign-up    [2]

                              >> Admin Log-in        [3]
                              _____
                              >> Go to Home Page     [0]
      _____

    >>> Enter Choice:
```

Press '3' to go to admin login page and input the required credentials to log in as shown below:

```
._____.

                        + + + + + + + + + + + + + + + + + + +
                        +              BIGG SALEZ             +
                        + + + + + + + + + + + + + + + + + + +
          _____

                                    ADMIN LOGIN
                           _____

          _____

                    >>> Username: admin
                    >>> Password: admin123_
```

You see as an admin logs-in the next page that appears has all sorts of options that an admin can perform, each of which is self-explanatory once we select any of them.

```
._____.

                        + + + + + + + + + + + + + + + + + + +
                        +              BIGG SALEZ             +
                        + + + + + + + + + + + + + + + + + + +
          _____
                                                               Hi Animesh Sanjay Sinha!

                           _____
                           >> Browse Products      [1]

                           >> Search Products      [2]

                           >> Add Products         [3]

                           >> Delete Products      [4]

                           >> Update Products      [5]
                           _____
                           >> Go to Home Page      [0]
          _____

          >>> Enter Choice: _
```

Browse products and search products (using unique product ID) is same as that for a user. Admins can also proceed to checkout if they want to buy a product.

So, lets proceed to add products option:

First, you'll have to enter the number of new products to be added, then you'll have to input all the required credentials for each product as shown in the picture.

```
                    + + + + + + + + + + + + + + + + + +
                    +               BIGG SALEZ               +
                    + + + + + + + + + + + + + + + + + +

                                                                    Hi Animesh Sanjay Sinha!


        Enter no of new products: 1

        Enter the product id to add: DELL0000001
        Enter product name: DELL VOSTRO
        Enter price of product: 50000.00
        Enter available stock: 28
        Mention the color of the product: Black
        Description of product: Intel core i5 8th Gen, 8GB RAM, 2GB dedicated AMD GPU, 1TB HDD, with figerprint scanner.

        The product was added successfully!!
        Press Enter/Return to go to admin page:
```

After pressing enter/return you'll be redirect to the admin page where, for example, let's choose delete product:

To delete a product **completely**, enter the unique ID of that product and then press enter to continue.

```
                    + + + + + + + + + + + + + + + + + +
                    +               BIGG SALEZ               +
                    + + + + + + + + + + + + + + + + + +

                                                                    Hi Animesh Sanjay Sinha!


                            PRODUCT DELETION PAGE
                            _____



        >> Enter the ID of the Product to be deleted: WATCH00001
        Current product details:
        1. Product ID = WATCH00001
        2. Product Name = SWATCH X1 Ultra slim watch
        3. Product Price = 4000.00
        4. Product Color = BLACK
        5. Product Description = Elegant, ultra slim, black round-dial watch for men with date and day dial.
        6. Product Quantity = 62

        Press Enter to continue: _
```

After the above step you'll be redirected to admin page.
Let's try updating a product. Enter the unique ID of the product to be updated.

```
                    + + + + + + + + + + + + + + + + + +
                    +          BIGG SALEZ            +
                    + + + + + + + + + + + + + + + + + +
                                                                    Hi Animesh Sanjay Sinha!


                                    UPDATE PAGE


    >> Enter Product ID: CAR0000001
    Current product details:
    1. Product ID = CAR0000001
    2. Product Name = HOTWHEELS
    3. Product Price = 500.50
    4. Product Color = Flame Red
    5. Product Description = Stylish and durable toy car for kids
    6. Product Quantity = 27

    Press enter to continue: _
```

Press enter/return to continue:

```
                    + + + + + + + + + + + + + + + + + +
                    +          BIGG SALEZ            +
                    + + + + + + + + + + + + + + + + + +
                                                                    Hi Animesh Sanjay Sinha!



                            >> Update Stocks              [1]

                            >> Update Price               [2]

                            >> Update Both Stock & Price  [3]
                               >> Go to Home Page      [0]


    >>> Enter Choice:
```

Now to update only stock (quantity) of the selected product press '1'.
It will ask for new stock. Input the new stock and press enter as shown in the figure below.

```
                    + + + + + + + + + + + + + + + + + +
                    +              BIGG SALEZ          +
                    + + + + + + + + + + + + + + + + + +
                                                              Hi Animesh Sanjay Sinha!



                            >> Update Stocks           [1]

                            >> Update Price            [2]

                            >> Update Both Stock & Price   [3]

                              >> Go to Home Page       [0]

        >>> Enter Choice: 1

    Enter New Stocks: 35
    Current product details:
    1. Product ID = CAR0000001
    2. Product Name = HOTWHEELS
    3. Product Price = 500.50
    4. Product Color = Flame Red
    5. Product Description = Stylish and durable toy car for kids
    6. Product Quantity = 35


    Press Enter/Return to go back to Update Page:
```

Similarly, to update price, select '2' and input the new price of the product:

```
                    + + + + + + + + + + + + + + + + + +
                    +              BIGG SALEZ          +
                    + + + + + + + + + + + + + + + + + +
                                                              Hi Animesh Sanjay Sinha!



                            >> Update Stocks           [1]

                            >> Update Price            [2]

                            >> Update Both Stock & Price   [3]

                              >> Go to Home Page       [0]

        >>> Enter Choice: 2

    Enter New Price: 456.989
    Current product details:
    1. Product ID = CAR0000001
    2. Product Name = HOTWHEELS
    3. Product Price = 456.99
    4. Product Color = Flame Red
    5. Product Description = Stylish and durable toy car for kids
    6. Product Quantity = 35


    Press Enter/Return to go back to Update Page:
```

To update both stocks and price select '3' and enter both required credentials:

```
                    + + + + + + + + + + + + + + + + + + +
                    +              BIGG SALEZ            +
                    + + + + + + + + + + + + + + + + + + +
 _____
                                                            Hi Animesh Sanjay Sinha!



                        _____
                        >> Update Stocks               [1]

                        >> Update Price                [2]

                        >> Update Both Stock & Price   [3]
                        _____
                            >> Go to Home Page      [0]
 _____
        >>> Enter Choice: 3
 _____

        Give new stocks and new price (space separated): 40 586.967
        Current product details:
        1. Product ID = CAR0000001
        2. Product Name = HOTWHEELS
        3. Product Price = 586.97
        4. Product Color = Flame Red
        5. Product Description = Stylish and durable toy car for kids
        6. Product Quantity = 40


        Press Enter/Return to go back to Update Page: _
```

This ends the example runs for all pages for an admin.

---< End of Admin-Manual>---