PES UNIVERSITY
(Established under Karnataka Act No. 16 of 2013)
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Title: Problem Solving with C Laboratory		
Course code: UE19CS152		
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PROJECT REPORT

Problem Statement

Customer Billing System to perform the following operations
   * To add account - It can hold any number of accounts and account can be added to the
     program at any time.
   * To search account – searching the account by two ways ,either by name of the
     customer or by the serial number of the customer.
   * To display all customers list.
   * The number of items purchased and total bill is generated.
   * Calculation of due amount and paid amount.

Description

   Customer Billing system is a simple console application designed to demonstrate the practical
use of c programming language. It is also used to demostrate it's features as wellas to generate
application which can be used in any departmental stores,shops,malls,etc. We can use this
application to keep the records of customers such as name,customer number,payment etc.

Objectives: The purpose of this project is to build a console application program to reduce the
manual work for managing the bills,payments,cash,customers. It tracks all the details about the
customer.
* Add and maintain records of available products.
* Add and maintain customer details.
* Provides a convenient solution of billing pattern.
* Make an easy to use environment for users and customers.
* These are the important objectives of this project.
* Many things has been implemented in the project.

* It has security features like only authorized user can use this application,we created an admin login for this application.
* We have gone through various shops like grocery shop,departmental stores,malls etc.
* We have collected the details of each product like name of the product, number of product purchased and unit price of that product.
* In future we can make some changes in our project like we can introduce email,sms feature, instead of printing, system can send email,sms for bill, card payment option along with cash payment options.

C-concepts used

* Structures.
* User Defined Functions.
* Structure in a structure.
* File concept.
* Arrays.

Learning Outcome

We learn the concept of arrays, structures, functions. Admin login has been created for this console application to protect the records , from others ,using termios.h header file.

Output Screenshots

Fig 1: Login Page

Fig 2: case 1 (Adding customer account)

```
************** CUSTOMER BILLING SYSYTEM **************
......................................................
                        MENU
......................................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
......................................................

Please Enter Your Choice ? : 1
***********************************************************
Customer no                    :3
Enter Customer Name            : ajay
Payment Date (dd/mm/yyyy)      : 23/03/2020
How many products ajay has bought : 3
-----------------------------------------
Enter name of product 1        : pen
Enter unit price of product 1 : 20
Enter no of quantity purchased : 3
-----------------------------------------
Enter name of product 2        : book
Enter unit price of product 2 : 50
Enter no of quantity purchased : 2
-----------------------------------------
Enter name of product 3        : coke
Enter unit price of product 3 : 120
Enter no of quantity purchased : 2

Item                    Unit Price      Quantity        Total Price
   pen                      20             3                 60
   book                     50             2                100
   coke                    120             2                240
-----------------------------------------------------------
              Total Bill Amount    :    400
-----------------------------------------------------------
Enter Paid Amount            :  400
***********************************************************
Due Amount is                :  0

  ***********************************************************
```

Fig 3: case 2 (search account by name)

```
************** CUSTOMER BILLING SYSYTEM **************
......................................................
                    MENU
......................................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
......................................................

Please Enter Your Choice ? : 2
Enter the name to search: chandru


*****************************************************************************
Customer Name          : chandru
Customer Number        : 2
Date (dd/mm/yyyy)      : 23/10/2020

Item                      Unit Price      Quantity      Total Price
   choclate                    50             3             150
----------------------------------------------------------------
              Total Bill Amount    :         150
----------------------------------------------------------------
Paid Amount              : 140
----------------------------------------------------------------
Due Amount is            : 10

   -------------------------------------------------------------

*****************************************************************************
```

Fig 4: case 3 (search account by serial number)

```
*************** CUSTOMER BILLING SYSYTEM ***************
...................................................
                     MENU
...............................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
...............................................

Please Enter Your Choice ? : 3
Enter the Sl number to search: 1

***********************************************************************************
Customer Name          : rajesh
Customer Number        : 1
Date (dd/mm/yyyy)      : 12/03/2019

Item                   Unit Price      Quantity      Total Price
  soap                     1              1              1
  coke                     2              1              2
----------------------------------------------------------------
            Total Bill Amount      :            3
 ---------------------------------------------------------------
Paid Amount             : 2
 ---------------------------------------------------------------
Due Amount is           : 1


 ---------------------------------------------------------------

***********************************************************************************
```

(displaying all customer accounts)

```
*************** CUSTOMER BILLING SYSYTEM ***************
...................................................
                        MENU
.................................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
.................................................

Please Enter Your Choice ? : 4

********************************************************************************
Customer Name          : rajesh
Customer Number        : 1
Date (dd/mm/yyyy)      : 12/03/2019

Item                   Unit Price       Quantity       Total Price
  soap                          1              1                 1
  coke                          2              1                 2
--------------------------------------------------------------
              Total Bill Amount     :       3
--------------------------------------------------------------
Paid Amount               : 2
--------------------------------------------------------------
Due Amount is             : 1

         --------------------------------------------------------

********************************************************************************


********************************************************************************
Customer Name          : chandru
Customer Number        : 2
Date (dd/mm/yyyy)      : 23/10/2020

Item                   Unit Price       Quantity       Total Price
  choclate                        50              3           150
--------------------------------------------------------------
              Total Bill Amount     :     150
--------------------------------------------------------------
Paid Amount               : 140
--------------------------------------------------------------
Due Amount is             : 10

         --------------------------------------------------------

********************************************************************************
```

```
********************************************************************************
Customer Name          : ajay
Customer Number        : 3
Date (dd/mm/yyyy)      : 23/03/2020

Item                   Unit Price     Quantity      Total Price
  pen                         20           3                60
  book                        50           2               100
  coke                       120           2               240
----------------------------------------------------------------
          Total Bill Amount      :      400
----------------------------------------------------------------
Paid Amount                 : 400
----------------------------------------------------------------
Due Amount is               : 0

          ------------------------------------------------------

********************************************************************************
```

Fig 6: case 5 (exit)

```
*************** CUSTOMER BILLING SYSYTEM ***************
.............................................
                    MENU
.............................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
.............................................

Please Enter Your Choice ? : 5
hrithik@pesu:~/Documents$
```

Fig 7: case 6 Exception (could not able to find customer name)

```
*************** CUSTOMER BILLING SYSYTEM ***************
.............................................
                    MENU
.............................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
.............................................

Please Enter Your Choice ? : 2
Enter the name to search: gagan

 Could not find the customer name. Please retry!
```

Fig 8: case 7 Exception (could not able to find customer serial number)

```
*************** CUSTOMER BILLING SYSYTEM ***************
....................................................
                      MENU
....................................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
....................................................

Please Enter Your Choice ? : 3
Enter the Sl number to search: 6

 Could not find the customer number. Please retry!
```

Fig 9: case 8 Exception (Incorrect login credentials)

```
hrithik@pesu:~/Documents$ ./a.out


************* Admin Login *************

        Enter username : sumitadmin
        Enter password : *******

Incorrect username and password!!!!!!!! (please enter correct login credentials)


************* Admin Login *************

        Enter username : sumitadmin
        Enter password : ********

         Logged IN Successful

*************** CUSTOMER BILLING SYSYTEM ***************
....................................................
                      MENU
....................................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
....................................................

Please Enter Your Choice ? : ▮
```

Fig 10: case 9 Exception (Invalid Choice)


```
*************** CUSTOMER BILLING SYSYTEM ***************
.......................................................
                        MENU
.......................................................

1. Add accounts.
2. Search account by Customer Name.
3. Search account by Customer Serial number.
4. Display All customers.
5. Exit Application.
.......................................................

Please Enter Your Choice ? : 7


You have made a wrong choice. Please retry!
```

Name and Signature of the Faculty