NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION, AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
BELGAUM, APPROVED BY AICTE & GOVT.OF KARNATAKA

Application Development using JAVA (18CS45)

on

CANTEEN BILLING SOFTWARE

Submitted in partial fulfilment of the requirement for the award of Degree of

Bachelor of Engineering

in

Computer Science and Engineering

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Department of Computer Science and Engineering

(Accredited by NBA Tier-1)

2020-2021

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CERTIFICATE

This is to certify that the Phase II Report on **CANTEEN BILLING SOFTWARE** is an authentic work carried out by Avirukth GT (1NT19CS043), Dheeraj S **(1NT19CS066),** Nameesha Tantri **(1NT19CS119)** bonafide students of **Nitte Meenakshi Institute of Technology**, Bangalore in partial fulfilment for the award of the degree of ***Bachelor of Engineering*** in COMPUTER SCIENCE AND ENGINEERING of Visvesvaraya Technological University, Belagavi during the academic year ***2019-2020.*** It is certified that all corrections and suggestions indicated during the internal assessment has been incorporated in the report.

Internal Guide

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Mrs.Shobha P
Assistant Professor, Dept. CSE,
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Signature of the HOD

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Dr.Thippeswamy M. N.
Professor, Head, Dept. CSE,
NMIT Bangalore

DECLARATION

We hereby declare that

(i) The project work is our original work

(ii) This Project work has not been submitted for the award of any degree or examination at any other university/College/Institute.

(iii) This Project Work does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

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Date: 21-July-2021

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of any task would be incomplete without the mention of the people who made it possible, whose constant guidance and encouragement crowned our effort with success. I express my sincere gratitude to our Principal **Dr. H. C. Nagaraj**, Nitte Meenakshi Institute of Technology for providing facilities.

We wish to thank our HoD**, Dr.Thippeswamy M.N.** for the excellent environment created to further educational growth in our college. We also thank him for the invaluable guidance provided which has helped in the creation of a better project.

I hereby like to thank our ***Mrs.Shobha P, Assistant Professor***, Department of Computer Science & Engineering on her periodic inspection, time to time evaluation of the project and help to bring the project to the present form.

Thanks to our Departmental Project coordinators. We also thank all our friends, teaching and non-teaching staff at NMIT, Bangalore, for all the direct and indirect help provided in the completion of the project.

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ABSTRACT

We have created a Canteen Billing Software using java for our LA project. We implemented the project using all the concepts which we learnt in the java class. We have used javaFX , event handling , file handling ,explicit inheritance , MySQL. Canteen Billing System is like any other software used in hotel , canteen to take customer's order and print bills .We have implemented similar software . In this software , we initially require the employee to login . Then we take the customer's details like name , phone number , age , ID and then the order and finally print the bill . Here all these data is stored in a database so that the canteen can use these customer data to do 2 things . One is to use the previous order and another is to send promotional emails , offers and messages to the customers .
We created this project as a team of 3 members. After 3-4 days of discussion , planning , coding , testing and handling errors , we were successful in creating Canteen Billing Software. Through this project we were able to show that we are not just skilled in java but we can also create real time project and we even learnt about soft skills which are as important as technical skills.

GitHub Link of the project: https://github.com/Nameesha-bbh/Canteen-Billing-System.git

CHAPTER 1: INTRODUCTION

1.1 Brief history of Technology/concept

History of Java : Java was originally designed for interactive television, but it was too advanced technology for the digital cable television industry at the time. The history of Java starts with the Green Team. Java team members (also known as Green Team), initiated this project to develop a language for digital devices such as set-top boxes, televisions, etc. However, it was best suited for internet programming. Later, Java technology was incorporated by Netscape. The principles for creating Java programming were "Simple, Robust, Portable, Platform-independent, Secured, High Performance, Multithreaded, Architecture Neutral, Object-Oriented, Interpreted, and Dynamic". Java was developed by James Gosling, who is known as the father of Java, in 1995. James Gosling and his team members started the project in the early '90s.Currently, Java is used in internet programming, mobile devices, games, e-business solutions etc.

1.2 Applications

- Mobile Applications.
- Desktop GUI Applications.
- Web-based Applications.
- Enterprise Applications.
- Scientific Applications.
- Gaming Applications.
- Big Data technologies.
- Business Applications.

1.3 Research motivation and Problem statement

1.3.1 Research Motivation

The motivation for us is to build a project based on the concepts that we have learnt until now during our class hours and some additional information from outside.

So we thought of including all the concepts and creating a Real-World Application and we were successful in doing it.

We have not only implemented the concepts that we learnt during our class hours but we have also browsed few other concepts so that we could make the project more agile.

1.3.2 Statement of the Problem

So the problem chosen by us is named as **CANTEEN BILLING SYSTEM.**

Canteen Billing System is common type of any other ordinary billing system which you observe when you visit hotels , supermarkets and cafes.

Using this system we can calculate the total price for the quantity of food ordered by the customer and we can print the invoice correspondingly.

This includes a Sign-In form for which access is only given to the admin i.e., the person who has been assigned for the billing process.

Next we have User Detail page where we are taking details from the user and store it in the database for the future use.

Next we have a Food Ordering Page where we are calculating price for the food and generating the final invoice.

This is our introduction to the project.

1.4 Summary

The summary is that we have utilized all the concepts learnt in the java classes and other concepts from oracle documentation to develop a real-time application.

CHAPTER 2: SYSTEM REQUIREMENTS SPECIFICATIONS

2.1 General Description

2.1.1 Product Perspective

While development and testing of the project it was found that there are some situation where the software started taking more time than expected to respond and it took more memory .Sometimes it would go to a not responding situation when we tested it in a low-end computer , so it is recommended to have a computer with good RAM .

2.2 System Requirements

2.2.1 Hardware Requirements

Processor : 1MHz or more(Dual Core 2.4Ghz+ recommended)

RAM : 4GB or more

Internet Connection

2.2.2 Software Requirements

Operating System : Windows 7 or above recommended

Database : MySQL needs to be installed in the system

JAVA related files needs to be installed(java sdk)

2.3 Summary

As the software may lag or go to a not responding situation in a low performance system , it is recommended to have good system hardware and software.It is also mandatory to have java sdk installed as the software cannot work without it.

CHAPTER 3: IMPLEMENTATION

3.1 Description of Process

- We spent nearly 3-4 days to complete the project. We as a team initially discussed about what would be the flow of the software and after deciding , we started noting down what labels , text fields , concepts , variables are needed .We have used many concepts of java like gui programming , exception handling ,file handling. Initially we decided to use an easy and a better way of placing all elements in the java window – gridpane. We referred this concept from the oracle documentation. Then we made a

sign in page to show that only employee with access to the database can use the software . After successful login , we take the customer details for any future purposes .Later we take the food quantity and then place the order . All these details are stored in a database. Total price can be checked before placing the order through the CHECK TOTAL PRICE button. Later the food details ,quantity and price is written into a text file which can be printed later. Customers can use their previous orders too if the details given by the customer is same as the details used for previous orders.

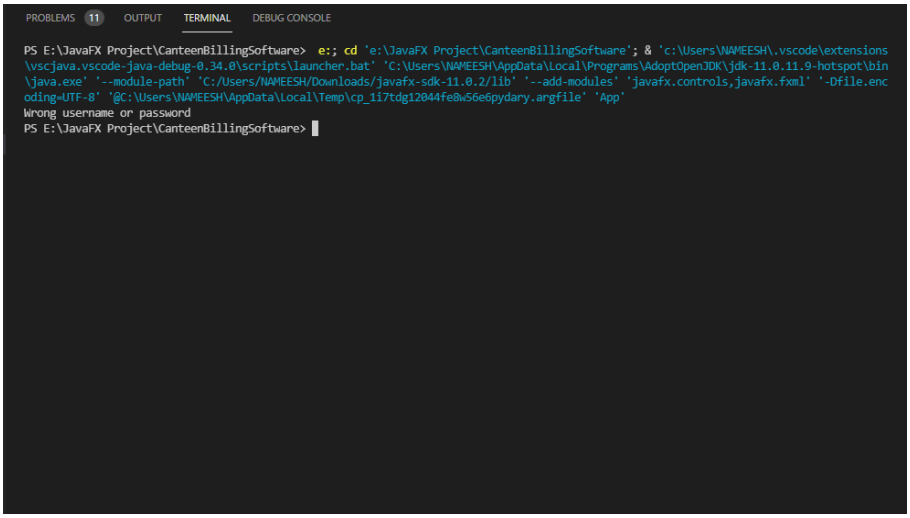
3.2 Algorithm

- Initial sign in page to access the software.
- If credentials were incorrect, an error message is shown.
- If credentials are correct then customer details are taken.
- On submitting of customer details, the order page is shown.
- All the food items are shown with their rates, the employee has to enter the quantity as requested by the customer.
- Total price can be checked before placing the order through the CHECK TOTAL PRICE button.
- On submit of the order, final bill page is shown and the bill is printed.
- Customers can use their previous orders too if the details given by the customer is same as the details used for previous orders.

CHAPTER 4 :OUTPUT

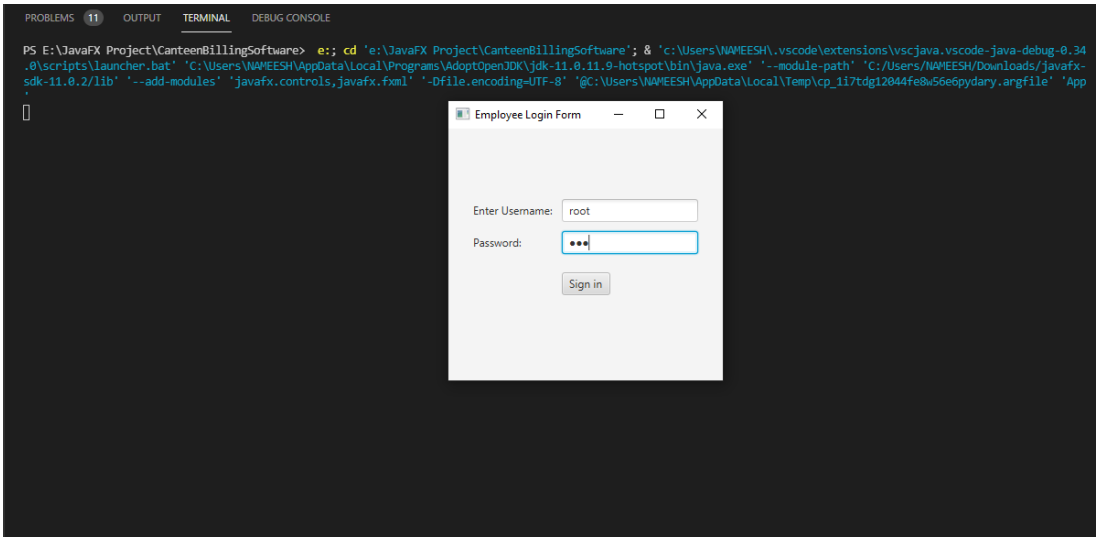
Credentials database:

Test case 1: When entered credentials are wrong.

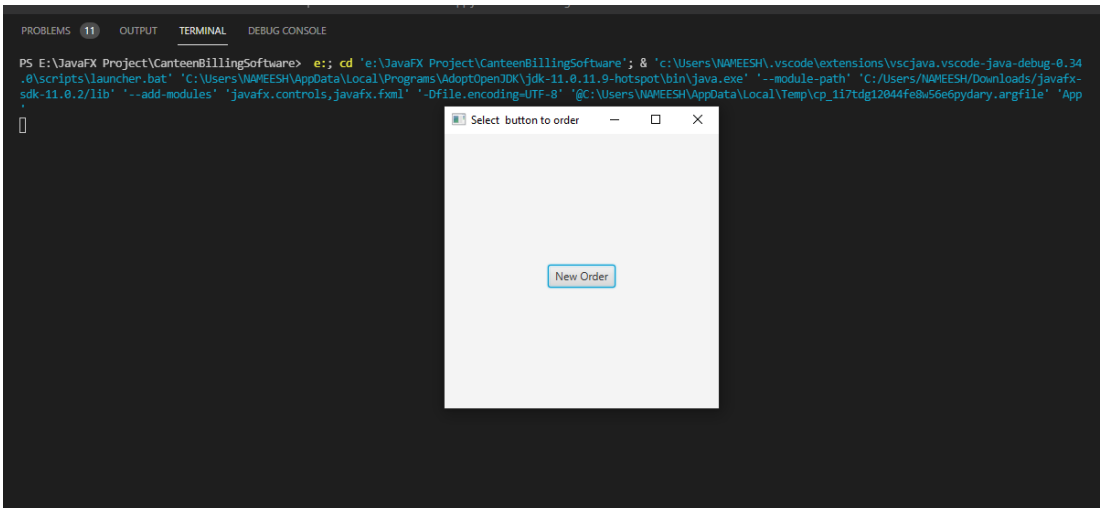


Test Case 2:

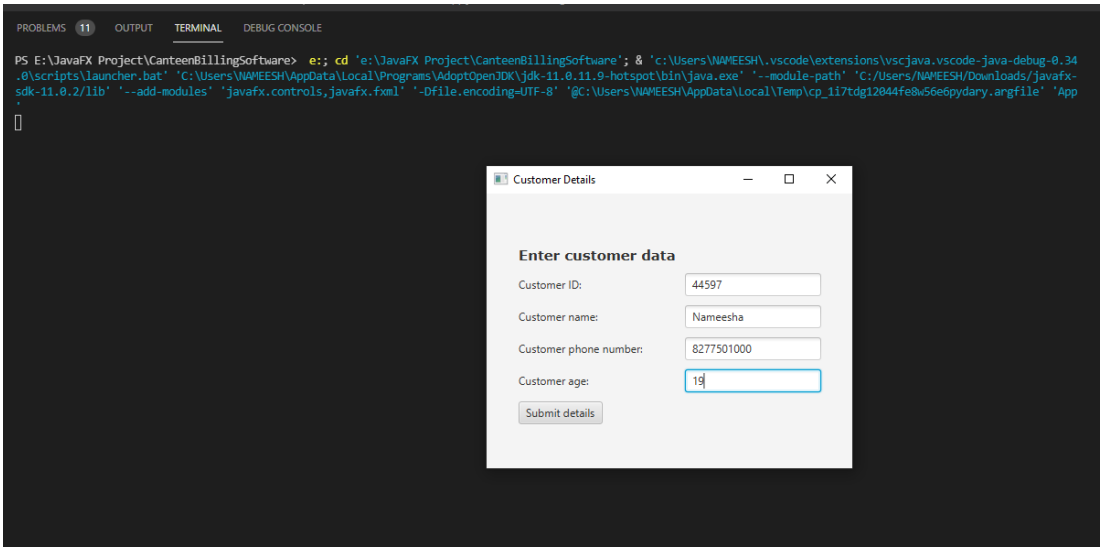
1. Sign in page



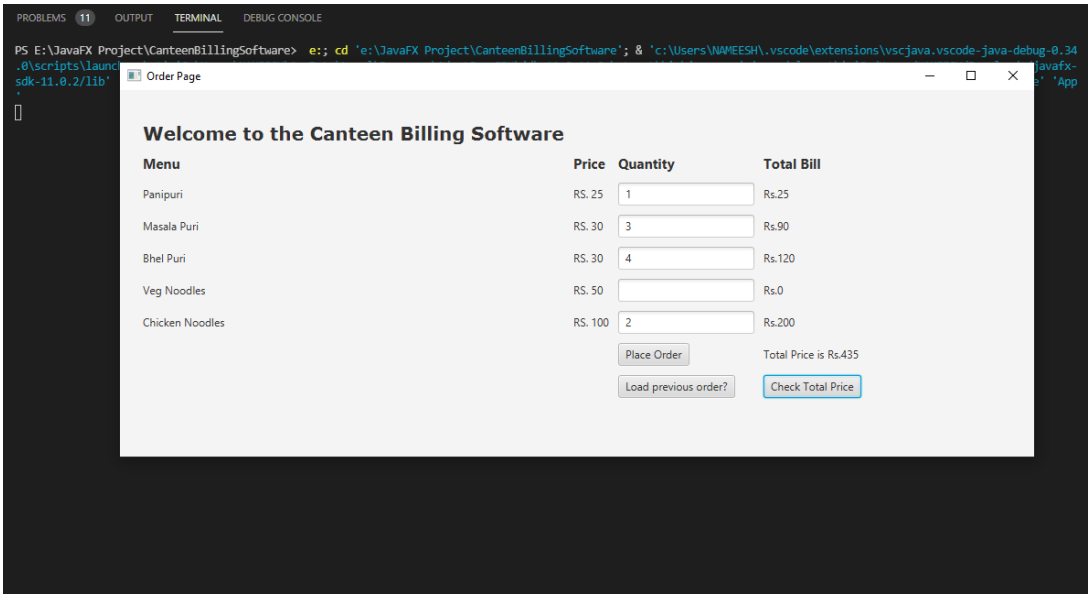
2. New Order Page



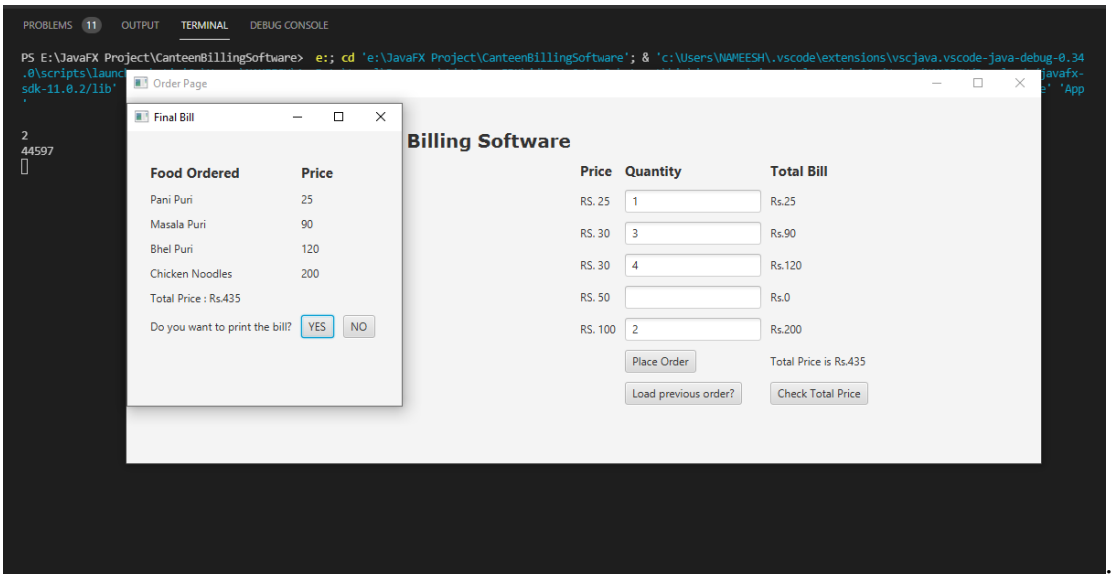
3. Taking customer information



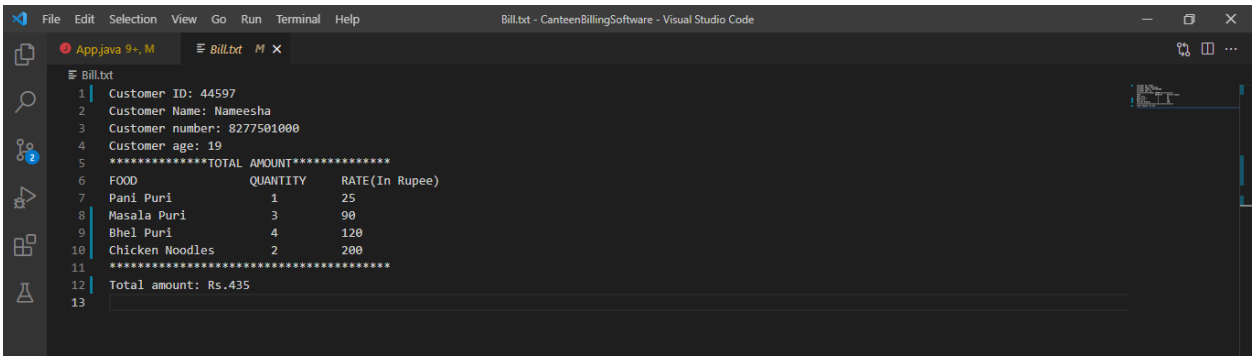
4. Order Page



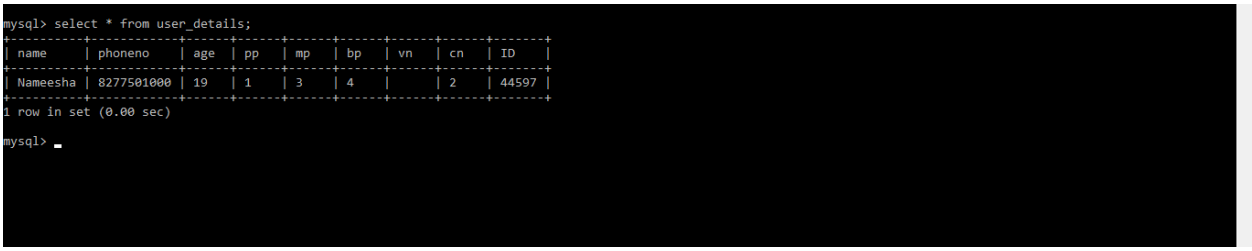
5. Final Bill Page



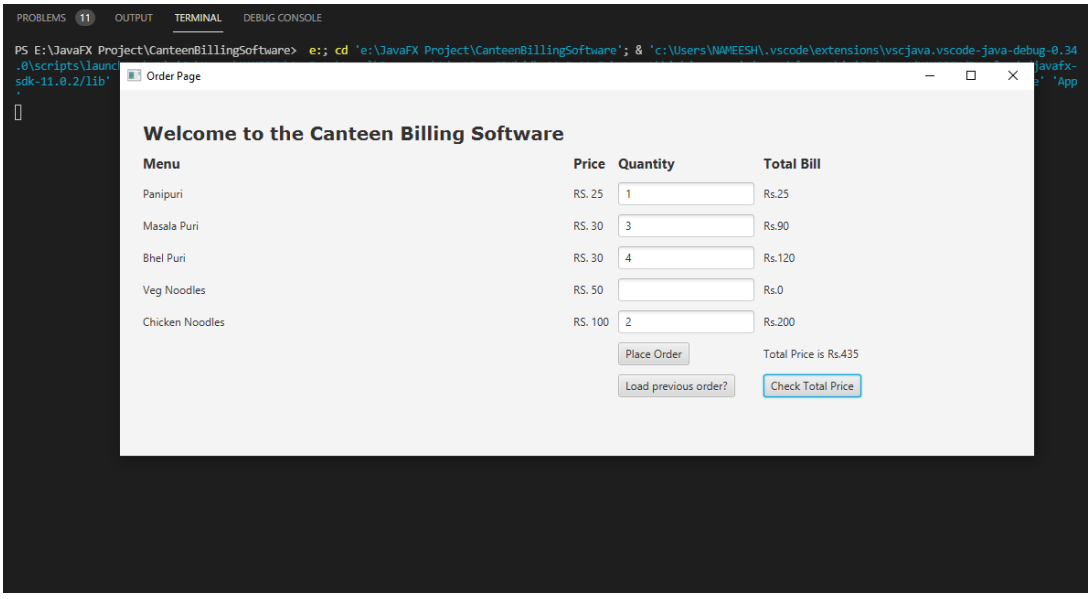
6. Bill text file



7. SQL Database record



8. Load Previous order



CHAPTER 5: RESULTS

We as a team were successful in creating a real-time application using java based on our understanding of the subject.

CHAPTER 6: CONCLUSIONS

Java is one of the most used programming languages with a lot of properties. We as a team of 3 members created a real-time application using java . The software was based on our efforts and understanding of the subject. We implemented file handling , exception handling , javaFX , JDBC and created a login page to login into the software , customer details page to store customer data for future references , order page to take customer orders and some extra features like accessing customer's previous orders and printing the bill. After a lot of testing and handling errors , we were successful in developing this software and it was a very good experience.

REFERENCES

We have taken references from oracle official documentation for some concepts like gridpane and prepared statements(sql) .All other code were based on our understanding and efforts .

PLAGIARISM REPORT