A PROJECT REPORT

on

"ACCOUNT RECEIVABLES DEPARTMENT"

Submitted to

KIIT Deemed to be University

In Partial Fulfilment of the Requirement for the Award of

BACHELOR'S DEGREE IN

COMPUTER SCIENCE

BY

1905904
Arghya Ghosh

UNDER THE GUIDANCE OF

YOGESH WARAN
Affiliation

SCHOOL OF COMPUTER ENGINEERING

KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY

BHUBANESWAR, ODISHA - 751024

May 2020

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BHUBANESWAE, ODISHA -751024

May 2022

KIIT Deemed to be University

School of Computer Engineering
Bhubaneswar, ODISHA 751024

CERTIFICATE

This is certify that the project entitled

"ACCOUNT RECEIVABLES DEPARTMENT"

submitted by

1905904
Arghya Ghosh

is a record of bonafide work carried out by them, in the partial fulfilment of the requirement for the award of Degree of Bachelor of Engineering (Computer Sci-ence & Engineering OR Information Technology) at KIIT Deemed to be university, Bhubaneswar. This work is done during year 2022-2023, under our guidance.

Date: 14/04/2022

YOGESH WARAN
Project Mentor

Acknowledgements

We are profoundly grateful to **Sir Yogesh Waran** for his expert guidance and continuous encouragement throughout to see that this project rights its target since its commencement to its completion. We also take this opportunity to express a deep sense of gratitude towards the Dean of
Computer Science and Engineering .

GROUP MEMBER A

Arghya Ghosh

ABSTRACT

The B2B world is not the same as the B2C or C2C worlds. Businesses work on a credit basis with one another. When a buyer company orders products from a seller company, the seller company sends an invoice to the buyer company. The B2B world signifies Businesses work with other businesses on credit. When a buyer business orders goods from the seller business, the seller business issues an invoice for the same. This invoice for the goods contains various information like the details of the goods purchased and when it should be paid. The buyer business needs to clear its amount due before the due date.

In real-world settings, however, invoices are not always cleared, that is, paid in full by the due date (The payment date is perhaps the date on which a client clears the payment for an invoice.) The project is split into two halves. A Machine Learning Model is constructed in the first half of this project to forecast the payment date of an invoice when it is produced in the system. The invoices are then divided into buckets based on the expected payment date. In the second half of the project, ReactJs, JDBC, Java, and JSP are used to create a full stack Invoice Management Application. A responsive Receivables Dashboard is created in this application. We may see the data in the shape of grids here.

Keywords: B2B C2C world , invoice records , dates, business type , payment date , prediction report

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Chapter 1

Introduction

Project is all about having and UI based overview with certain functinality to amend the whole record according to the structure and need . For certain functionality , I have used backend assist as project requirements for smooth function. Every invoice has to be closed at the end of the day but befor that we need to track that record for that this project serves that purpose .

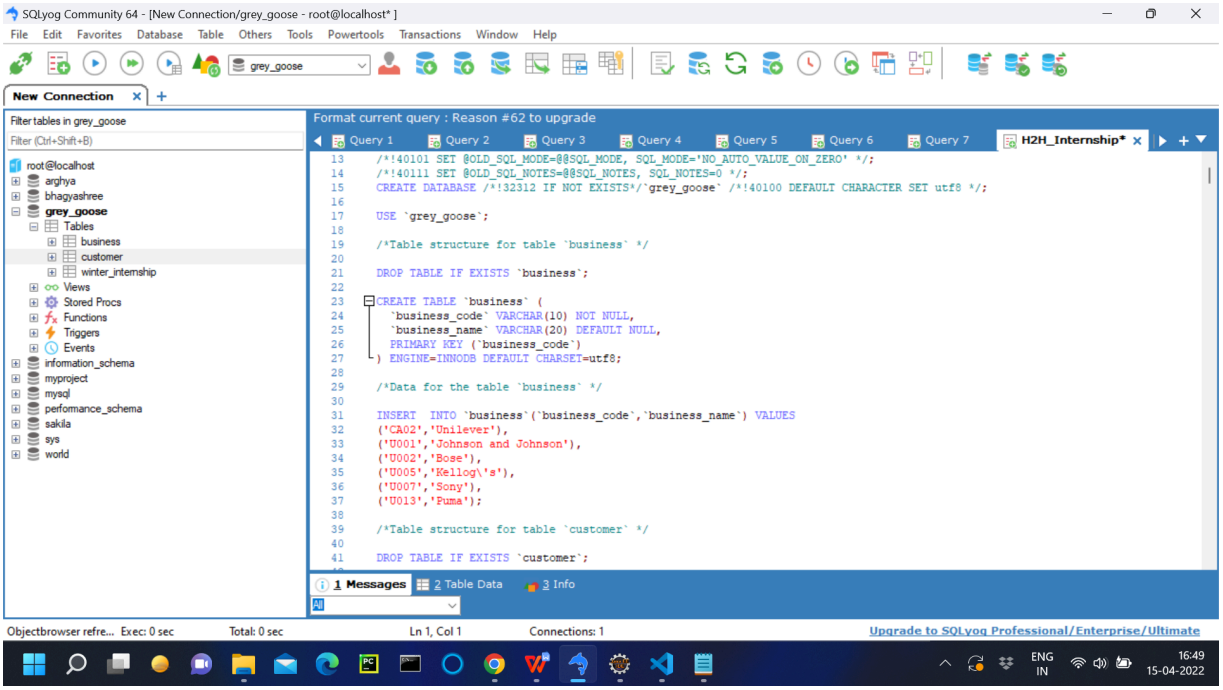


Table I used in my Project

Chapter 2

Basic Concepts

This project is divided into many parts. From those parts in the Machine Learning part I used Python for Data Pre-Processing on the invoice data, perform EDA and Feature Engineering for getting the prediction of the payment date. For fetching the data from database I used JDBC (Java) for getting connection with the server and perform different SQLQuery, also for servelet part I used Apache Tomcat 8.5Version. And finally the UI part for Data Visualization I used HTML, CSS, JavaScript and ReactJS library, also I used Material UI for creating user Interface in my React application in VS Code.

Description of the tools I used in this project:-

2.1 Python….

Python is a interpreted, object oriented high-level programming language with dynamic semantics. It have different types of packages which we need to install and import for making our program more effecient. It have simple, easy to learn syntax emphasizes readibility and reduce the cost of program maintenance.

2.2 Machine Learning….

Machine learning is a sub-categoy of artificial intelligence and effective automates the processof analytical model bulding and allows machine to adapt to new scenarios independently. In our project I use Data Pre-Processing on the invoice data table and get account level analytics to easily visualize interpret data for getting the prediction of the invoice getting paid.

2.3 JAVA….

Java is a object object-oriented programming language and software platform which support JDBC, an application programing interface for the programming language Java, which defines how a client may access a database

2.4 MySQL….

MySql is a reational database management system (RDBMS) developed by Oracle that is based on structured query language

2.5 HTML,CSS….

HTML (the Hypertext Markup Language) and CSS (Cascading Style Sheets) are two of the core technologies for building Web pages. HTML provides the structure of the page, CSS the (visual and aural) layout, for a variety of devices. Along with graphics and scripting, HTML and CSS are the basis of building Web pages and Web Applications.

2.6 JavaScript….

JavaScript is a text based programming language used both on the client side and server side that allows you to make web pages interactive. When HTML and CSS language that give strucure and style to our project web page, JavaScript gives web page interactive elements that engage a user.

2.7 ReactJS….

React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies.

2.8 Material UI

Material UI is an open-source, front-end framework for React components that has 60,500 plus stars on github. It is built using *Less*. Less (stands for Leaner Style Sheets), is a backward-compatible language extension for CSS.

Chapter 3

Problem Statement / Requirement Specifications

The objective of the Web Application Development projects is to build a Full-Stack Invoice Management Application using ReactJS, JDBC, Java, Servlet, build a responsive Receivable Dashboard, Visualize Data in the form of grids, Perform Searching operations on the invoice, Add & Edit data in the editable fields of the grid, Delete data of the selcted rows in predefined templates.

3.1 Project Planning

For project planning first I work with Machine Learning part. Here I created a ML model which will predict the date on which invoice is going to pay. For this I choose Jupyter Notebook for compilation of my ML model.

After this I created my UI part using the HTML, CSS and JavaScript. I created it in ReactJS as it makes it easy due to its component based approach. Used Material UI for creating responsive table and buttons and Dilogue box pop-up for Add, Delete and Advance Search Section.

Now for creating the backend part. For backend part I used Java in Eclipse. I created different Servelet files which will perform different functions like dataloading, adding data, editing data, deleting data and for searching and sorting data.

3.2 Project Analysis

After the requirements are collected or the problem statements is conceptualized, this needs to be analyzed for finding any short of ambiguity, mistake, etc.

3.3 System Design

3.3.1 Design Constraints

For Machine Learning part I used Anaconda where I used Jyupiter Notebook for writing and compiling python code.

For front-end part I used VS code where I used ReactJS in react-app for creating my grid and buttons.

For Back-End I used Eclipse, where I create different Java packages for creating my servelets file. For structure I created Pojo-class for getting and setting the data using get and set method.
For server side I used SQLYog platform where I created my tables for storing the invoice data.

3.3.2 System Architecture

1) ML (first) : Prediction of the Due date for few columns
Software use : ANNACONDA (JUPYTER)
PYTHON & Scikit-Learn

SQLyog(Second) : Dumping the data records in the sql database as temporary records which will get interact with java API

ECLIPSE (third) : Creating JAVA serverlet (API)
Software use : APACHE SERVERS
(Tomcat 9.0)
GSON & JSON drivers

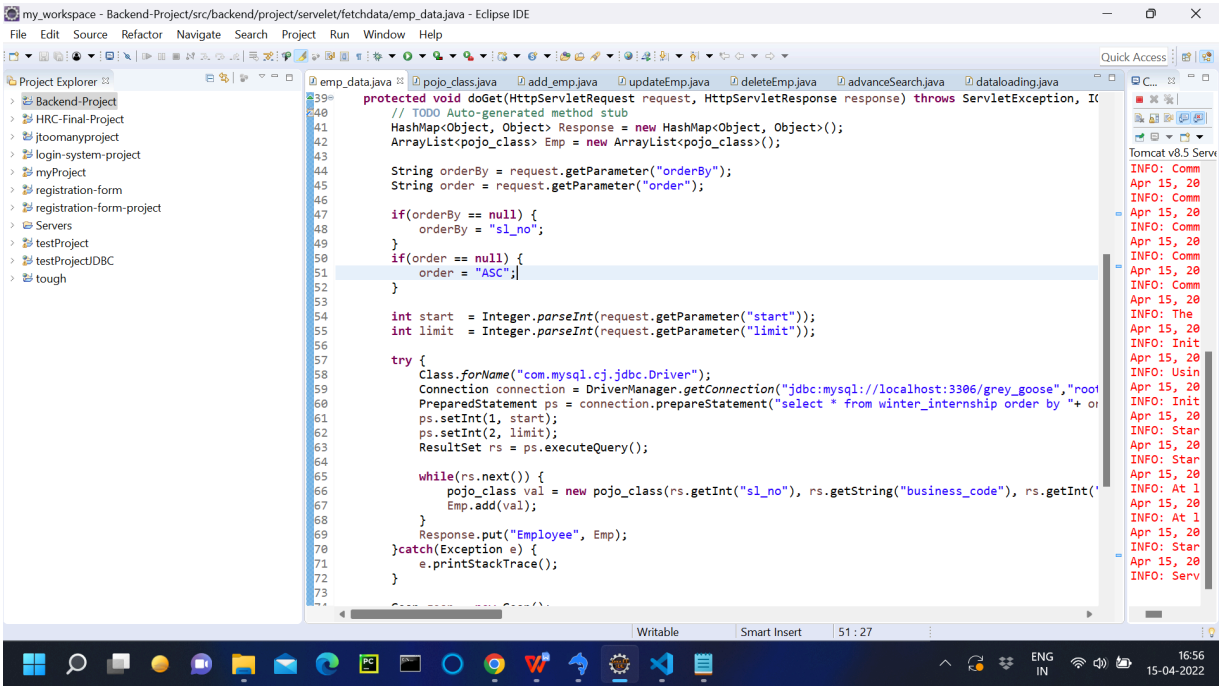
REACTJS(Forth): Creating UI based model
Software use : VS code
mui-materials
AXIOS

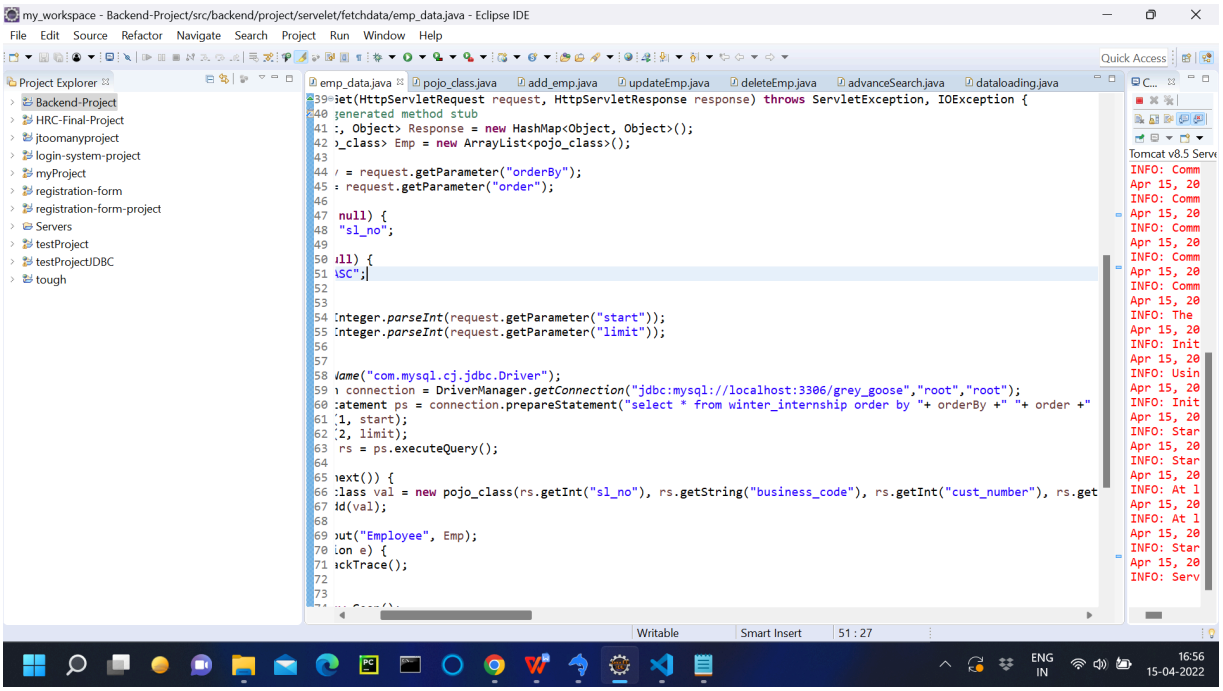
Chapter 4

Implementation

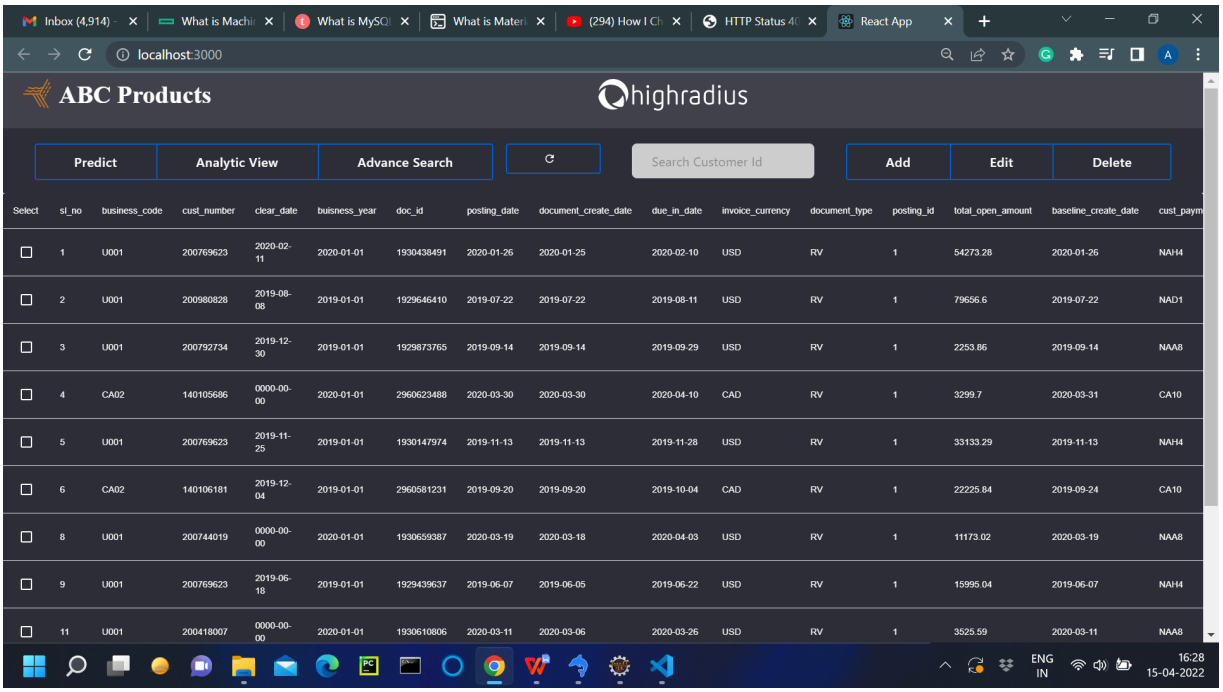
Output of my Project

Java Connection part





Front-end UI part


Inbox (4,914)
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What is MySQ
What is Mater
(294) How I Ch
HTTP Status 4(
React App
localhost:3000
ABC Products
highradius
Predict
Analytic View
Advance Search
Search Customer Id
Add
Edit
Delete
Select sl_no business_code cust_number clear_date buisness_year doc_id posting_date document_create_date due_in_date invoice_currency document_type posting_id total_open_amount baseline_create_date cust_paym
1 U001 200769623 2020-02-11 2020-01-01 1930438491 2020-01-26 2020-01-25 2020-02-10 USD RV 1 54273.28 2020-01-26 NAH4
2 U001 200980828 2019-08-08 2019-01-01 1929646410 2019-07-22 2019-07-22 2019-08-11 USD RV 1 79656.6 2019-07-22 NAD1
3 U001 200792734 2019-12-30 2019-01-01 1929873765 2019-09-14 2019-09-14 2019-09-29 USD RV 1 2253.86 2019-09-14 NAA8
4 CA02 140105686 0000-00-00 2020-01-01 2960623488 2020-03-30 2020-03-30 2020-04-10 CAD RV 1 3299.7 2020-03-31 CA10
5 U001 200769623 2019-11-25 2019-01-01 1930147974 2019-11-13 2019-11-13 2019-11-28 USD RV 1 33133.29 2019-11-13 NAH4
6 CA02 140106181 2019-12-04 2019-01-01 2960581231 2019-09-20 2019-09-20 2019-10-04 CAD RV 1 22225.84 2019-09-24 CA10
8 U001 200744019 0000-00-00 2020-01-01 1930659387 2020-03-19 2020-03-18 2020-04-03 USD RV 1 11173.02 2020-03-19 NAA8
9 U001 200769623 2019-06-18 2019-01-01 1929439637 2019-06-07 2019-06-05 2019-06-22 USD RV 1 15995.04 2019-06-07 NAH4
11 U001 200418007 0000-00-00 2020-01-01 1930610806 2020-03-11 2020-03-06 2020-03-26 USD RV 1 3525.59 2020-03-11 NAA8
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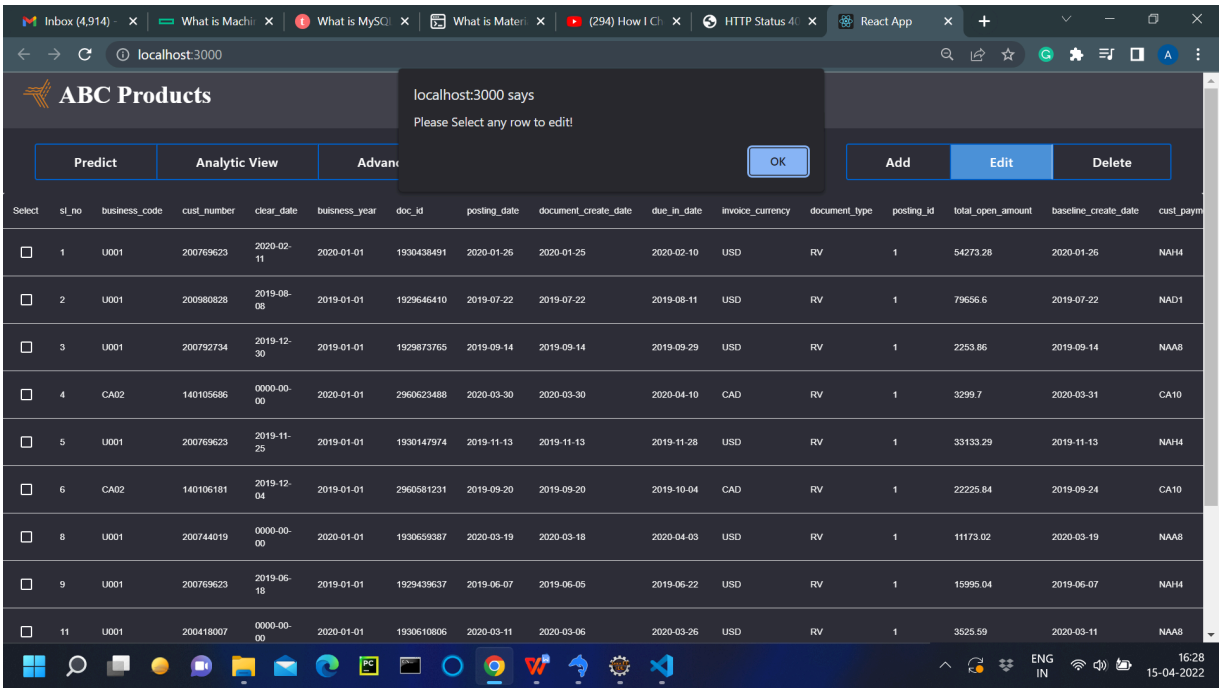
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What is MySQ
What is Mater
(294) How I Ch
HTTP Status 4(
React App
localhost:3000
ABC Products
localhost:3000 says
Please Select any row to edit!
OK
Predict
Analytic View
Add
Edit
Delete
Select sl_no business_code cust_number clear_date buisness_year doc_id posting_date document_create_date due_in_date invoice_currency document_type posting_id total_open_amount baseline_create_date cust_paym
1 U001 200769623 2020-02-11 2020-01-01 1930438491 2020-01-26 2020-01-25 2020-02-10 USD RV 1 54273.28 2020-01-26 NAH4
2 U001 200980828 2019-08-08 2019-01-01 1929646410 2019-07-22 2019-07-22 2019-08-11 USD RV 1 79656.6 2019-07-22 NAD1
3 U001 200792734 2019-12-30 2019-01-01 1929873765 2019-09-14 2019-09-14 2019-09-29 USD RV 1 2253.86 2019-09-14 NAA8
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6 CA02 140106181 2019-12-04 2019-01-01 2960581231 2019-09-20 2019-09-20 2019-10-04 CAD RV 1 22225.84 2019-09-24 CA10
8 U001 200744019 0000-00-00 2020-01-01 1930659387 2020-03-19 2020-03-18 2020-04-03 USD RV 1 11173.02 2020-03-19 NAA8
9 U001 200769623 2019-06-18 2019-01-01 1929439637 2019-06-07 2019-06-05 2019-06-22 USD RV 1 15995.04 2019-06-07 NAH4
11 U001 200418007 0000-00-00 2020-01-01 1930610806 2020-03-11 2020-03-06 2020-03-26 USD RV 1 3525.59 2020-03-11 NAA8
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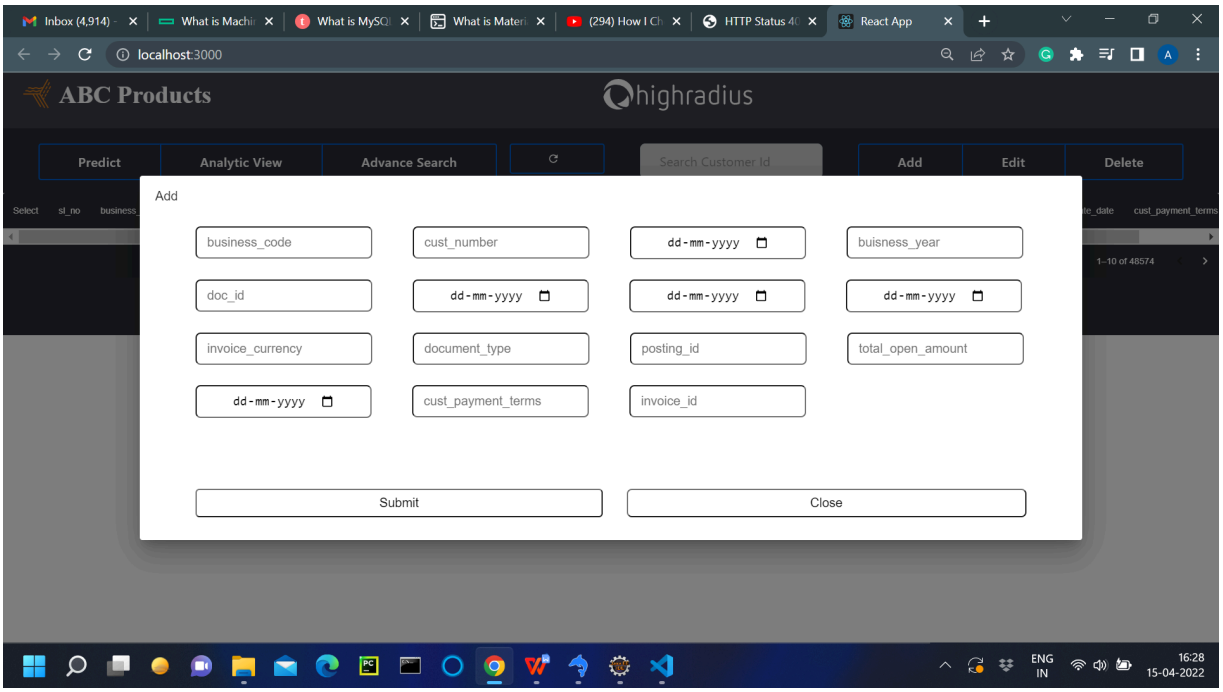

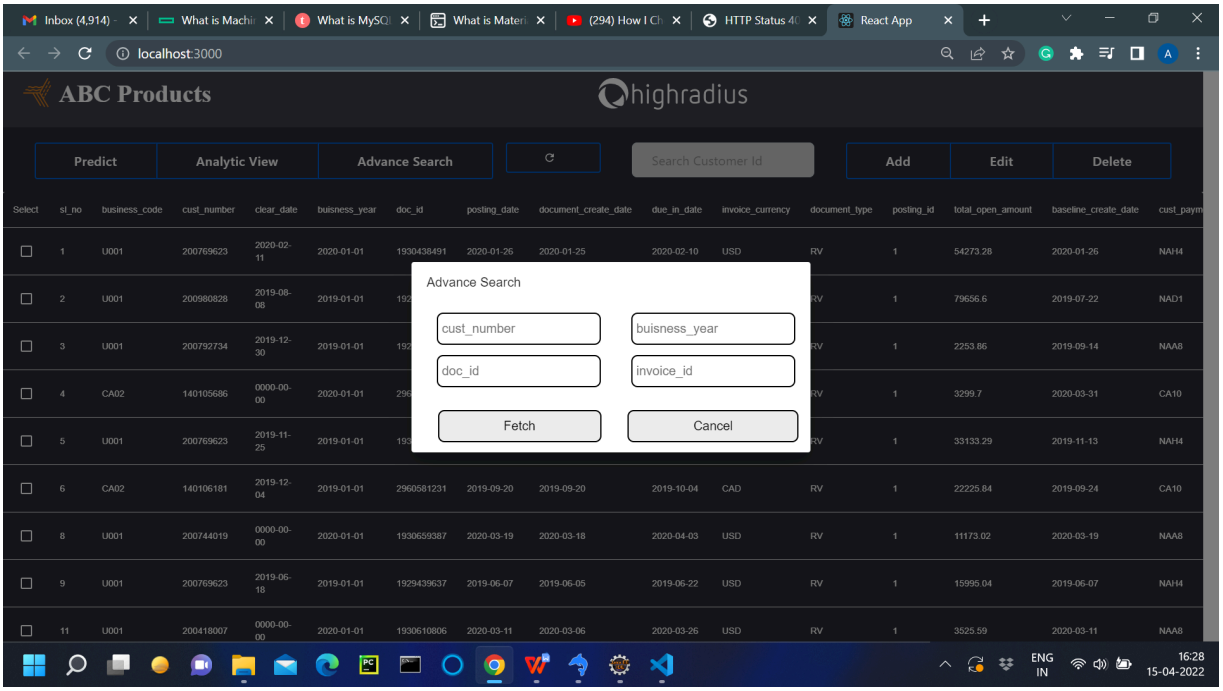

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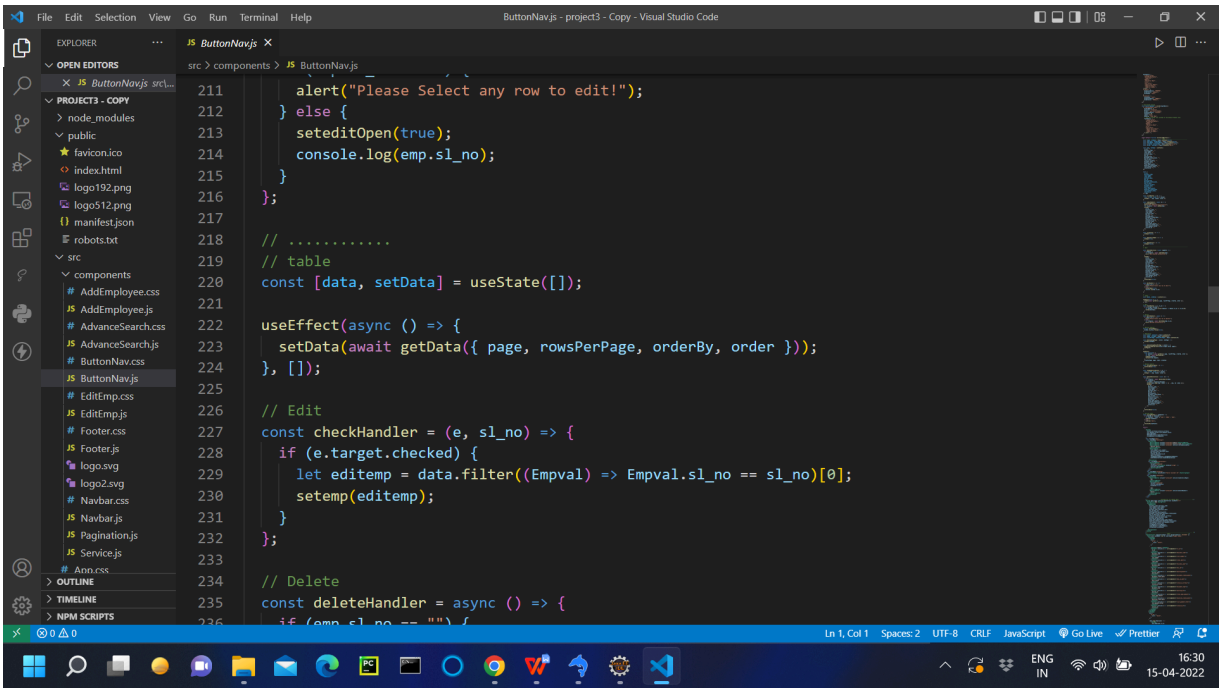
Vs Code Coding Part


File Edit Selection View Go Run Terminal Help
ButtonNav.js - project3 - Copy - Visual Studio Code
EXPLORER
OPEN EDITORS
ButtonNav.js src\...
PROJECT3 - COPY
node_modules
public
favicon.ico
index.html
logo192.png
logo512.png
manifest.json
robots.txt
src
components
AddEmployee.css
AddEmployee.js
AdvanceSearch.css
AdvanceSearch.js
ButtonNav.css
ButtonNav.js
EditEmp.css
EditEmp.js
Footer.css
Footer.js
logo.svg
logo2.svg
Navbar.css
Navbar.js
Pagination.js
Service.js
App.css
OUTLINE
TIMELINE
NPM SCRIPTS
ButtonNav.js
src > components > ButtonNav.js
alert("Please Select any row to edit!");
} else {
seteditOpen(true);
console.log(emp.sl_no);
}
};
// .....
// table
const [data, setData] = useState([]);
useEffect(async () => {
setData(await getData({ page, rowsPerPage, orderBy, order }));
}, []);
// Edit
const checkHandler = (e, sl_no) => {
if (e.target.checked) {
let editemp = data.filter((Empval) => Empval.sl_no == sl_no)[0];
setemp(editemp);
}
};
// Delete
const deleteHandler = async () => {
Ln 1, Col 1 Spaces: 2 UTF-8 CRLF JavaScript Go Live Prettier
ENG IN
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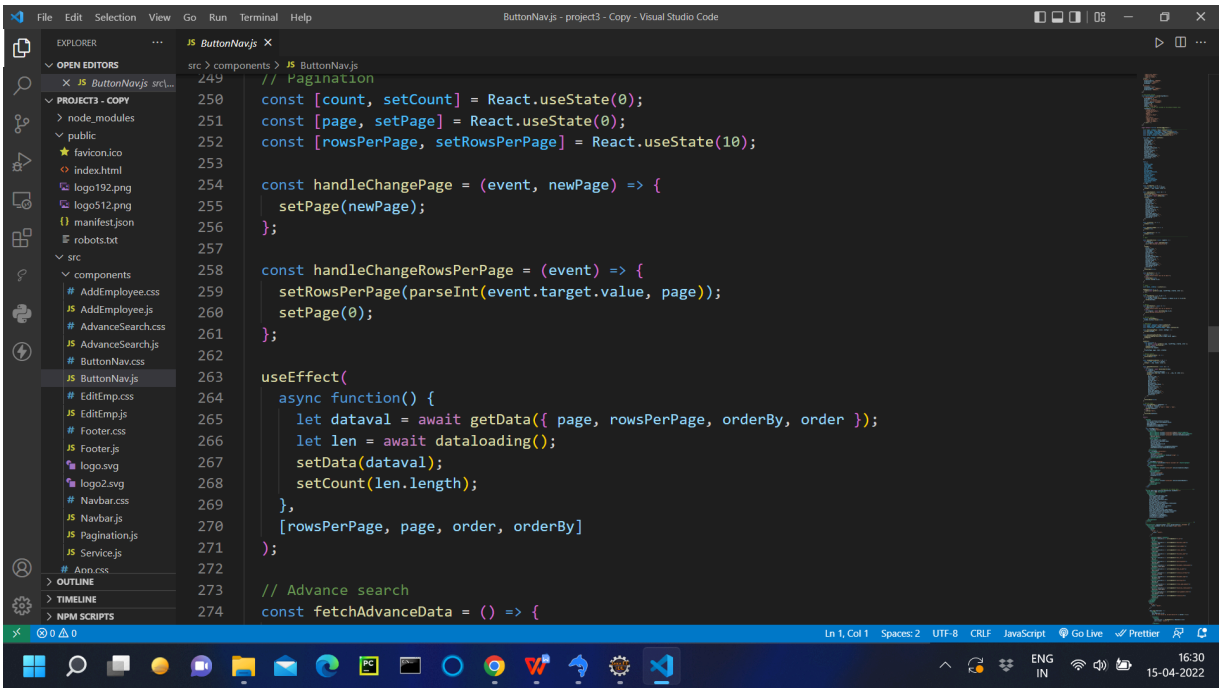
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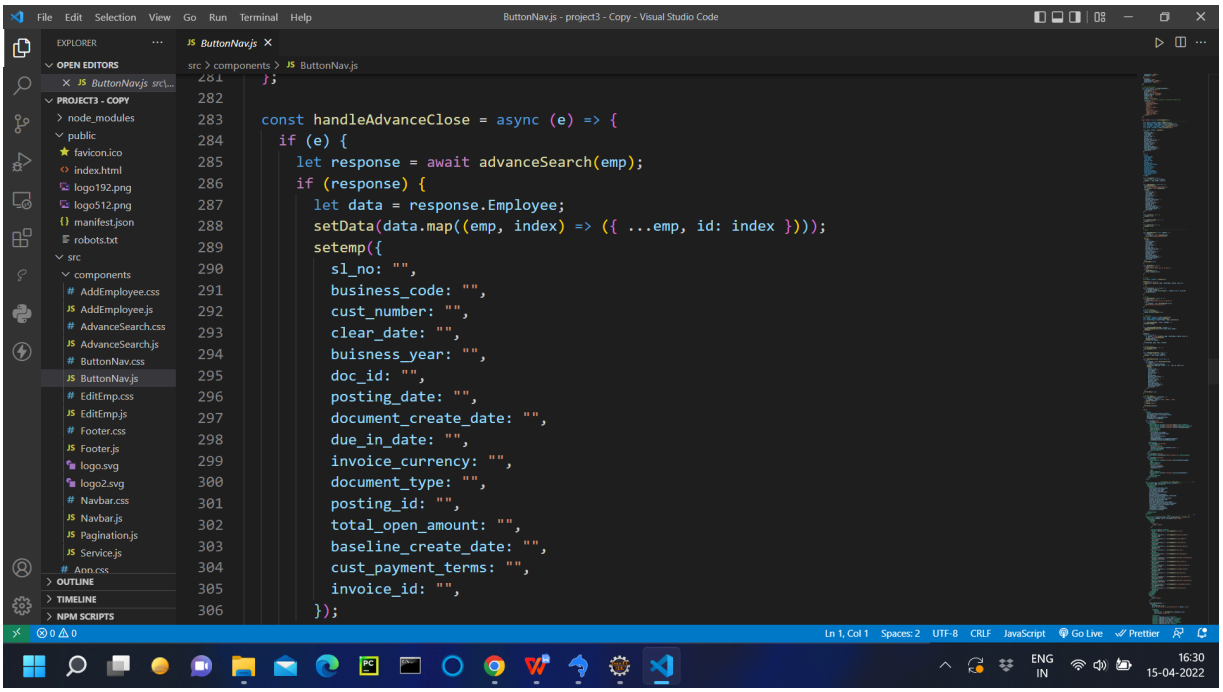
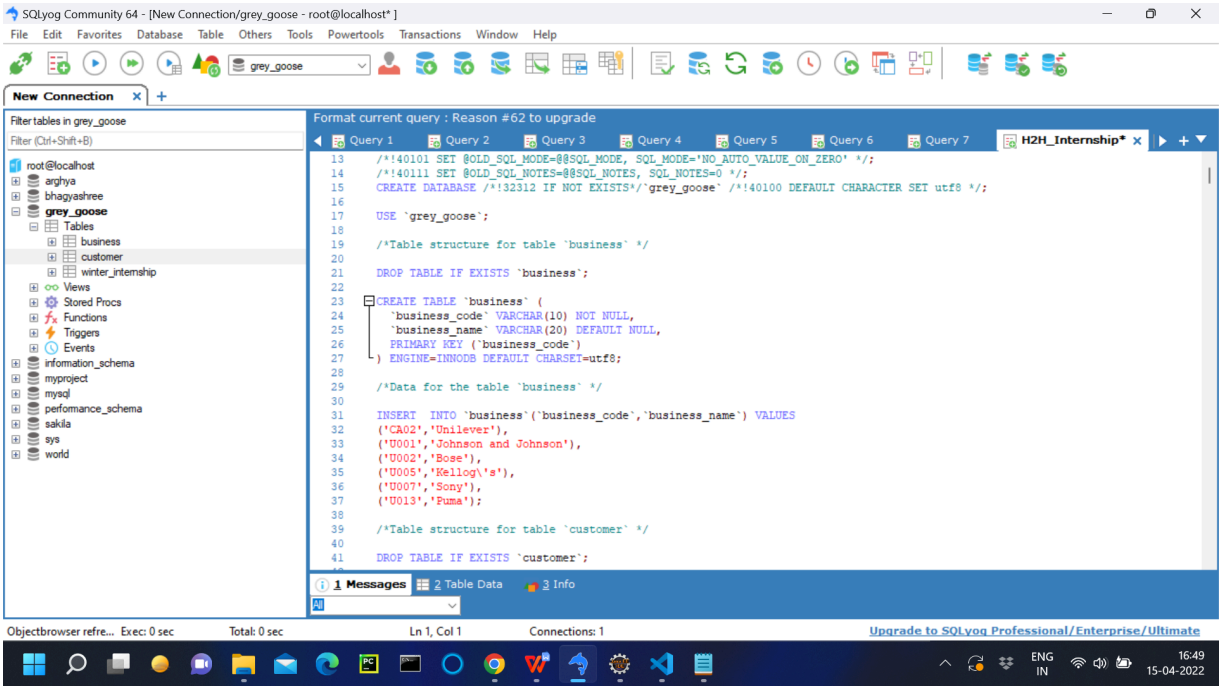
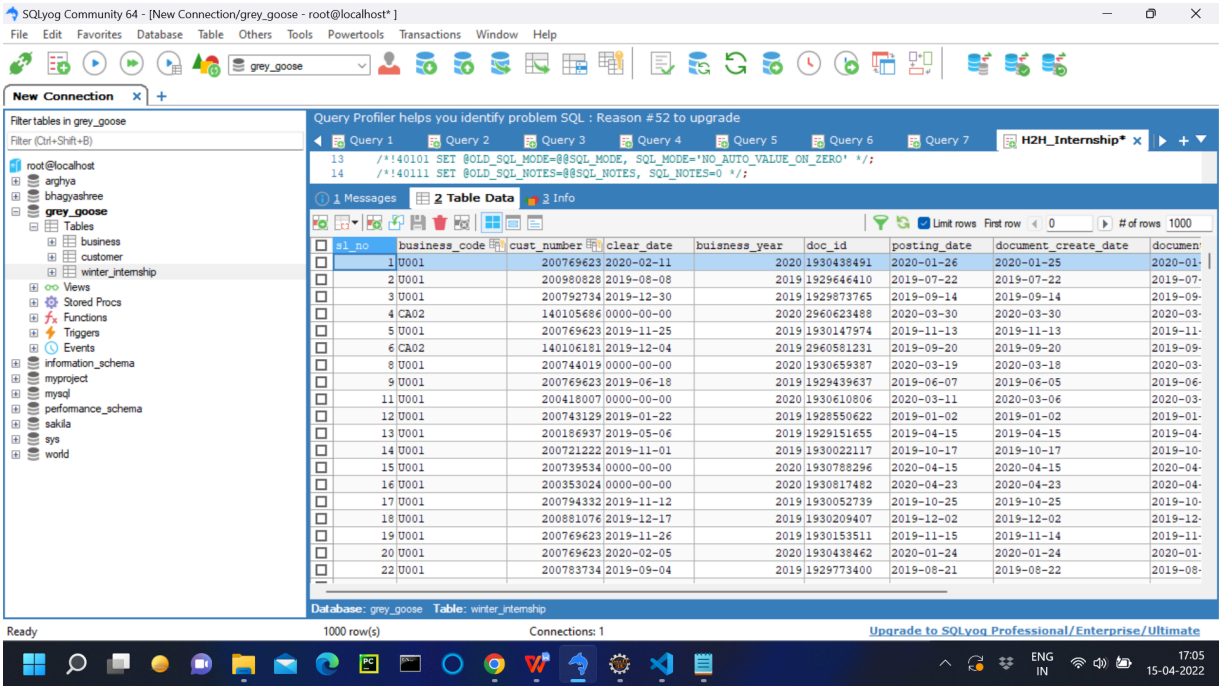
EXPLORER
OPEN EDITORS
ButtonNav.js src\...
PROJECT3 - COPY
node_modules
public
favicon.ico
index.html
logo192.png
logo512.png
manifest.json
robots.txt
src
components
AddEmployee.css
AddEmployee.js
AdvanceSearch.css
AdvanceSearch.js
ButtonNav.css
ButtonNav.js
EditEmp.css
EditEmp.js
Footer.css
Footer.js
logo.svg
logo2.svg
Navbar.css
Navbar.js
Pagination.js
Service.js
App.css
OUTLINE
TIMELINE
NPM SCRIPTS
ButtonNav.js
src > components > ButtonNav.js
// Pagination
const [count, setCount] = React.useState(0);
const [page, setPage] = React.useState(0);
const [rowsPerPage, setRowsPerPage] = React.useState(10);
const handleChangePage = (event, newPage) => {
setPage(newPage);
};
const handleChangeRowsPerPage = (event) => {
setRowsPerPage(parseInt(event.target.value, page));
setPage(0);
};
useEffect(
async function() {
let dataval = await getData({ page, rowsPerPage, orderBy, order });
let len = await dataloading();
setData(dataval);
setCount(len.length);
},
[rowsPerPage, page, order, orderBy]
);
// Advance search
const fetchAdvanceData = () => {
Ln 1, Col 1 Spaces: 2 UTF-8 CRLF JavaScript Go Live Prettier
ENG IN
16:30
15-04-2022



MySql table part and data grid




SQLyog Community 64 - [New Connection/grey_goose - root@localhost*]
File Edit Favorites Database Table Others Tools Powertools Transactions Window Help
grey_goose
New Connection
Filter tables in grey_goose
Filter (Ctrl+Shift+B)
root@localhost
arghya
bhagyashree
grey_goose
Tables
business
customer
winter_internship
Views
Stored Procs
Functions
Triggers
Events
information_schema
myproject
mysql
performance_schema
sakila
sys
world
Query Profiler helps you identify problem SQL : Reason #52 to upgrade
Query 1 Query 2 Query 3 Query 4 Query 5 Query 6 Query 7 H2H_Internship*
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
1 Messages 2 Table Data 3 Info
Limit rows First row 0 # of rows 1000
sl_no business_code cust_number clear_date buisness_year doc_id posting_date document_create_date
1 U001 200769623 2020-02-11 2020 1930438491 2020-01-26 2020-01-25
2 U001 200980828 2019-08-08 2019 1929646410 2019-07-22 2019-07-22
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18 U001 200881076 2019-12-17 2019 1930209407 2019-12-02 2019-12-02
19 U001 200769623 2019-11-26 2019 1930153511 2019-11-15 2019-11-14
20 U001 200769623 2020-02-05 2020 1930438462 2020-01-24 2020-01-24
22 U001 200783734 2019-09-04 2019 1929773400 2019-08-21 2019-08-22
Database: grey_goose Table: winter_internship
Ready
1000 row(s)
Connections: 1
Upgrade to SQLyog Professional/Enterprise/Ultimate
ENG IN
17:05
15-04-2022

NAME OF PROJECT

Chapter 6

Conclusion & Future Scope

6.1 Conclusion of my project is that I created a application where customer can add their invoice data. Can perform different types of crud operations like add, edit, delete and search. Can sort the data particularly column wise. And at the end can predict payment date of the particular invoice data.

References

[1] www.google.co.in

www.stackoverflow.com

www.tuitorialspoint.com

www.geeksforgeek.com

www.material-ui.com

SAMPLE INDIVIDUAL CONTRIBUTION REPORT:

<ACCOUNT RECEIVABLES DEPARTMENT>

Arghya Ghosh

1905904

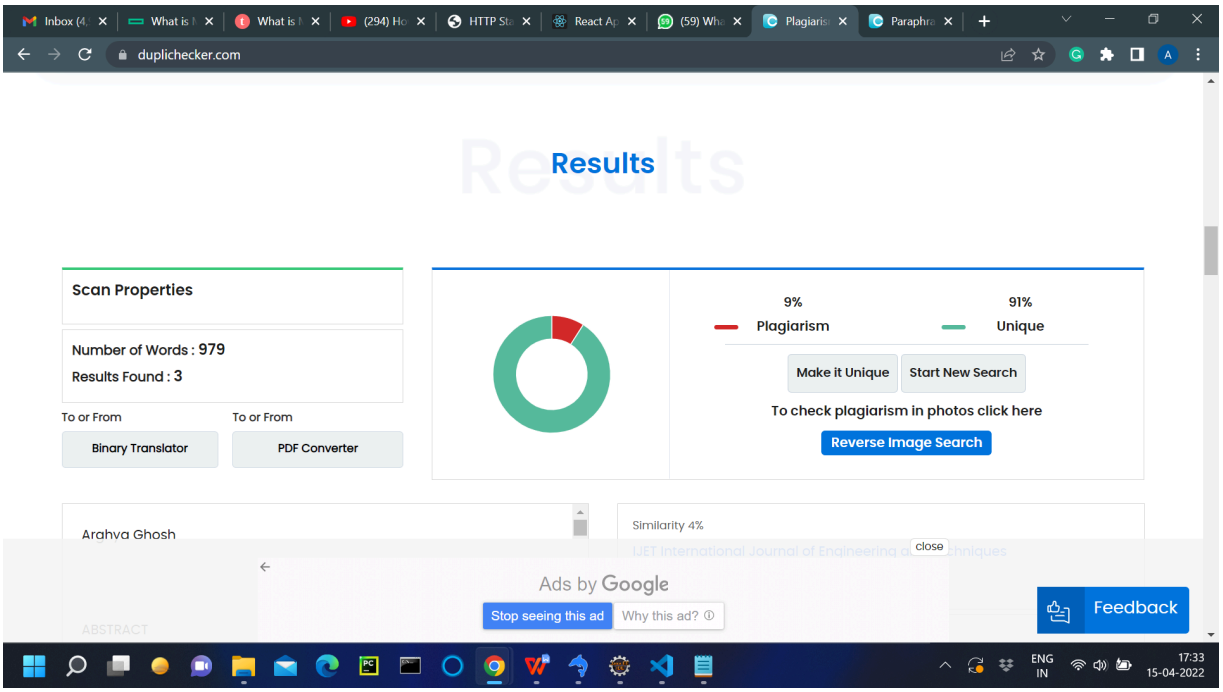
Abstract: This project is Ml based invoice date prediction appliaction which can perform different types of crud operations with the invoice data like add, edit, delete and search.

Full Signature of Project Mentor:

Yogesh Waran

Full signature of the student:

Arghya Ghosh

TURNITIN PLAGIARISM REPORT

(This report is mandatory for all the projects and plagiarism must be below 25%)