Four Week Industrial Training

(16-July-2022 To 19-August-2022)

At

WsCubeTech - Jodhpur (Rajasthan , India)

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

Bachelor of Technology

(Computer Science & Engineering)

Batch (2020-2024)

ਆਈ. ਕੇ. ਗੁਜਰਾਲ ਪੰਜਾਬ ਟੈਕਨੀਕਲ ਯੂਨੀਵਰਸਿਟੀ, ਜਲੰਧਰ

I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY, JALANDHAR

(A State University Established by Govt. of Punjab vide Punjab Act No. 1 of 1997)

Submitted By:-

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B.Tech. CSE (Leet)

5th Semester

Roll no. 2124532

PREFACE

*Success doesn't mean the absence of failures; it means the attainment of ultimate objectives. It means winning the war, not the battle***.**

-EDWIN C.BLIS

This project has been composed with the aim of covering a part of degree of **computer Science & Engineering** syllabus as prescribed by **I.K. Gujral Punjab Technical University , Jalandhar**. A lot of effort has been made to make this project report interesting and a learning experience for the leader. The report has been explained with the help of diagrams and figures. The subject matter has been compiled in a simple, illustrative and lucid manner.

ACKNOWLEDGEMENT

I take this opportunity to present my votes of thanks to all those guide post who really acted as lightning pillars to enlighten our way throughout this project that has led to successful and satisfactory completion of this study.

I am are really grateful to **Mr. Pradeep Rai Sir (WsCubeTech)** and **Mr. Gaurav Prajapat (WsCubeTech)** for their active support, whole-hearted guidance, sincere cooperation and pains-taking involvement during the study and in completing the assignment of preparing the said project within the time stipulated.

Lastly, I am thankful to all, particularly my team member, who have been instrumental in creating proper, healthy & conductive environment for me but without their help, it would have been extremely difficult for me to prepare the project in a time bound framework.

DECLARATION

I hereby declare that I am the students of Computer Science & Engineering at **I.K. Gujral Punjab Technical University , Jalandhar.**

I completed our 28 days training in python from **WsCubeTech** and developed project titled **" Bill Management System "** during the period from 16-july-2022 to 19-august-2022 in partial fulfillment of requirement for the award of degree of **B.tech** (Computer Science & Engineering) **.** Everything I learned there was very useful and important which gave us a lot of help for improving our programming skills.

COMPANY CERTIFICATE PHOTOCOPY

WsCube Tech®
System For Satisfaction

Certificate of Completion

First Floor, Laxmi Tower, Bhaskar Cirlce,
Ratanda, Jodhpur, Rajasthan

Mr. / Mrs. Pranjeet Kumar

has successfully completed training on

All about Mastery in Python Programming Course

on 19th August 2022

We wish him/her all the best in him/her future Endeavors.

Registration No. : IBG336PX

Kushagra Bhatia
Center Director, WsCube Tech-Jodhpur (Raj.)
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Pranjeet kumar

(Signature of student)

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1. Company Profile

Chapter1

INTRODUCTION

1.1 INTRODUCTION TO ORGANIZATION

A BRIEF ABOUT WSCUBE TECH

WsCube Tech is a leading IT training institute and software development company in India. Founded by Kushagra Bhatia in 2010, the company initially focused on offering web and app development services to small and medium businesses (SMBs).

In 2011, the training part of WsCube Tech came into inception with the necessity to hire a skilled workforce. There was a clear gap in the IT industry for skilled candidates. Companies were unable to find the right talent because of this gap.

That is when WsCube Tech started offering web development and app development Training courses in Jodhpur. Over the years, the company has expanded its portfolio of courses to include Digital Marketing, Python, Data Science, Cyber Security, Graphic Designing, and many more in-demand skills.

WsCube Tech has trained 150K+ students and offered internship opportunities to 3.5K+ candidates. In addition, it is one of the fastest-growing tech-based YouTube channels in India, with a community of 1.6+ Million subscribers and 8+ Million monthly views.

With an expert team of trainers in various technological fields, the institute has helped thousands of students across India and other Asian countries to acquire new skills and explore high-paying career opportunities.

WSCUBETECH FLOURISHING JOURNEY OVER THE LAST DECADE

There is no looking back!

2022

Hit the milestone of 1 Million subscribers on YouTube. More than 110 batches (online + classroom) run per month now, with over 45 courses.

2021

Introduced Ethical Hacking & Penetration Testing courses (both online and offline). Published 1750+ tutorials on YouTube and crossed 500K subscribers.

2020

During the pandemic, introduced LIVE classes for most courses. Doubled the frequency of videos published on YouTube. Surpassed 100K+ Subscribers.

2019

Crossed 50K+ YouTube subscribers. Started providing pre-recorded online courses. New courses were also launched for various programming languages.

2018

Introduced professional courses on Robotics, PLC-SCADA, and Advanced Python. 2,000+ students and working professionals enrolled in these courses.

2017

Adopted robust web frameworks like NodeJS, AngularJS, and Laravel for projects. Started Python and Machine Learning Courses and trained 2,000+ students.

2016

Won training assignment from ISRO and offered Web & Mobile Technology training. Started Java Training. Reached milestone of 5,000+ students.

2015

By now, we had worked on 8K+ projects & trained 3K+ students. Introduced Digital Marketing and CakePHP courses. Created a YouTube channel to offer free tutorials.

2014

There was high demand for more courses. That's when we Introduced training in C, C++, and Java for both college and school students.

2013

Expanded the service portfolio with Android/iOS app development, WordPress, and SEO. Launched classroom training on iOS Development, WordPress, and SEO.

2012

The institute witnessed great success which made us introduce Advanced PHP Course and Android App Development Course.

2011

Worked on 200+ website projects. Expanded to include training division. Introduced Classroom-based PHP and ASP.NET courses for college students.

2010

Kushagra Bhatia, a visionary entrepreneur, laid the foundation of WsCube Tech in Jodhpur as a Web Development Company.

2. INTRODUCTION:

Project Title: **Bill Management System**

Project Manager: Ms. Navneet Kaur

Project Duration: 4 Week

Project category: GUI (Graphical User Interface) Application

2.1 OBJECTIVES OF PROJECT

This project will serve the following :-

- Add and maintain records of available products.
- Add and maintain customers details.
- Add and maintain description of new products.
- Add and maintain new entered category of products.
- Provides economic/financial reports to the owner monthly or weekly and yearly.
- Provides a convenient solution of billing pattern.
- Make an easy to use environment for users and customers.

2.2 Analysis of present system

Before we begin a new system it is important to study the system that will be improved or replaced (if there is one). We need to analyze how this system uses hardware , software , network and the people resources to convert data resources , such as transaction data , into information products , such as reports and displays. Thus we should document how the information system activities of input , processing output, storage and control are accomplished.

2.3 Problem of existing system

1. **Inability of modification of data :** The managing of huge data effectively and efficiently for efficient results, storing the details of the Consumers etc. in such a way that the database can be modified as not possible in the current system.
2. **Not user friendly** : The existing system is not user friendly because the retrieval and storing of data is slow and data is not maintained efficiently.
3. **Difficulty in reports generating :** Either no reports generating in a current system or they are generated with great difficulty reports take time to generate in the current system.
4. **Manual operator control :** Manual operator control is there and leads to a lot of chaos and errors.
5. **Lot of paperwork :** Existing system requires lot of paper work and even a small transaction require many papers fill. Moreover any unnatural cause (such as fie in the organization) can destroy all data of the organization . Loss of even a single paper led to difficult situation because all the papers are interrelated.
6. **Inability of sharing the data :** Data cannot be shared in the existing system. This means that no two persons can use the same data in existing system. Also the two departments in an organization cannot interact with each other without the actual movement of data.
7. **No support in decision-making :** Existing system does not support managerial decision-making.
8. **No support in strategic competitive advantage :** Existing system do not support strategic competitive advantages.

2.4 Future Scope of Project :

1. This project will help the store keeper in fast billing.
2. This project enable store keeper to maintain a great database of all Customers visited and purchase product from store.
3. Project will enable to see report regarding product and category.
4. It is easy to maintain in future prospect.

3. Methodologies to be Used:-

3.1 COURSE DESCRIPTION:

Python is becoming one of the most popular programming languages in the world. Used to teach programming at six of the top ten computer science programs in the U.S., Python has a reputation for being a well-supported language that is ideal for education. This support and quick learning curve has also made it popular among scientists. This course acts as an introduction to computer programming with the Python programming language. The basics of imperative programming will be covered as well as selected areas of computer science, object oriented programming and data structures. Computer programming is about problem solving so we will begin to think about how to solve problems in discrete steps like computers do. After the beginning of the course, when we have our sea legs, we will begin to introduce ideas from Data Science and use what we have learned about computer programming and problem solving in this area.

3.2 COURSE OBJECTIVES:

Upon completion of this course, candidates can expect to:

1. Understand problem solving with computer programming, computational thinking and discrete algorithms.
2. Demonstrate experience with the Python programming language and its design environments.
3. Have the ability to create well documented computer programs that uses logical constructs and the syntax of the Python programming language.

OUTLINE:

Unit 1: Basics of a program, variables, assignments, conditionals controls, programming environments.

Unit 2: Strings, lists, dictionaries, loops.

Unit 3: Functions, modularity, libraries, file i/0, exception handling.

Unit 4: Graphics, data handling, CS topics: sorting, searching, recursion.

4. SYSTEM REQUIREMENT

4.1 Characteristics of the proposed system

1. Easiness in modification of data.

2. **User friendly :** The proposed system is user friendly.

3. **Reports are easily generated :** Reports can be easily generated in a proposed system. So any type of reports can be generated in a proposed system , which helps the managers in a decisions- making activity.

4. **No or very few paperwork :** The proposed system either does not require paper work or very few paper works is required. All the data is Feted into the computer immediately and various bills and reports can be Generated through computers.

5. **Support strategic competitive advantage :** Proposed system supports strategic competitive advantages. Since the proposed systems provide easiness in reports generating it will provide strategic advantages among competitors.

6. **Computer operator control** : Computer operator control will be there no errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time.

4.2 Hardware and Software Requirements:

HARDWARE REQUIREMENT:

- PROCESSOR: intel i5 10^{th} gen with NVIDIA GeForce GTX 1650
- RAM: 8.00 GB (7.35 GB usable)

SOFTWARE REQUIREMENT:

- OPERATING SYSTEM: window 11 home single language
- BACK END: Python 3.11.1 interpreter
- FRONT END LANGUAGE: Python

5. INTRODUCTION TO PYTHON

Python is developed by **Guido van Rossum**. Guido van Rossum started implementing Python in 1989. Python is a very simple programming language so even if you are new to programming, you can learn python without facing any issues.

INTERESTING FACT: PYTHON IS NAMED AFTER THE COMEDY TELEVISION SHOW MONTY PYTHON'S FLYING CIRCUS. IT IS NOT NAMED AFTER THE PYTHON SNAKE.

5.1 FEATURES OF PYTHON PROGRAMMING LANGUAGE

1. **Readable:** Python is a very readable language.

2. **Easy to Learn:** Learning python is easy as this is a expressive and high level programming language, which means it is easy to understand the language and thus easy to learn.

3. **Cross platform:** Python is available and can run on various operating systems such as Mac, Windows, Linux, Unix etc. This makes it a cross platform and portable language.

4. **Open Source:** Python is a open source programming language.

5. **Large standard library:** Python comes with a large standard library that has some handy codes and functions which we can use while writing code in Python.

6. **Free:** Python is free to download and use. This means you can download it for free and use it in your application. See: Open Source Python License

7. **Supports exception handling:** If you are new, you may wonder what is an exception? An exception is an event that can occur during program exception and can disrupt the normal flow of program. Python supports exception handling which means we can write less error prone code and can test various scenarios that can cause an exception later on.

8. **Advanced features:** Supports generators and list comprehensions. We will cover these features later.

9. **Automatic memory management:** Python supports automatic memory management which means the memory is cleared and freed automatically. You do not have to bother clearing the memory.

5.2 WHAT IS PYTHON?

Python is a popular programming language. It was created in 1991 by Guido van Rossum.

It is used for:

- web development (server-side),
- software development,
- mathematics,
- system scripting.

5.3 What can Python do?

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.
- Python can connect to database systems. It can also read and modify files.
- Python can be used to handle big data and perform complex mathematics.
- Python can be used for rapid prototyping, or for production-ready software development.

5.4 Why Python?

- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc).
- Python has a simple syntax similar to the English language.
- Python has syntax that allows developers to write programs with fewer lines than some other programming languages.
- Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.
- Python can be treated in a procedural way, an object-orientated way or a functional way.

➢ Good to know:

- The most recent major version of Python is Python 3, which we shall be using in this tutorial. However, Python 2, although not being updated with anything other than security updates, is still quite popular.
- In this tutorial Python will be written in a text editor. It is possible to write Python in an Integrated Development Environment, such as Thonny, Pycharm or Eclipse which are particularly useful when managing larger collections of Python files.

5.5 Python Syntax compared to other programming languages

- Python was designed to for readability, and has some similarities to the English language with influence from mathematics.
- Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses
- Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions and classes. Other programming languages often use curly-brackets for this purpose.

6. System Analysis and Specification:

Requirement analysis is a software engineering task that bridges the gap between system level software analysis and software. Requirement analysis enables the system engineer to specify software function and performance indicate s/w interface with other system elements and establish constraints that software must meet. Requirements analysis allows the software engineer to refine the software allocation and build modules of the data, function and behavior domain that will be treated by software. Requirement specification provides the description to the developer and the customer with the mean to access quality rule.

There are four basic elements in system requirements analysis:

- **Output**

First of all, we must determine what the objectives or goals are, what do we intend to achieve, what is the purpose of our work; in other words what is the main aim behind the system. Defining aim is very vital in system work. If we do not know where we want to go, we will not know when we have reached there; we shall be unnecessarily wasting our time and energy in the system. The user department has to define these objectives in terms of their needs. These become the output, which the system analyst keeps into mind.

- **Input**

Once we know the output, we can easily determine when the inputs should be sometimes, it may happen that the required information may not be readily available in the proper form. This may be because of the existing terms we are not properly designed. Sometimes, it may not be possible to get the required information without the help of top management. If the information is vital to the system, we should make all possible help of top management.

- **Accuracy**

If the data is not accurate the output will be also not be correct.

- **Timeliness**

If data is not obtained in time, the entire system is considered to be a bad system.

6.1 SYSTEM ANALYSIS:

Analysis is a detailed study of the various operations performed by a system and their relationship within and outside of the system. In general view system is collection of people, procedures and equipments. People are not the only important component of any information system. Information is produced and used by people in an organization in their everyday activities to make decisions. Information system establishes procedures ensuring that right people receive right data at right time. These procedures determine what is to be done at it enter and passed through the system. System analysis is the method that is used to analyze the system, design them and build them. Analysis is used to gain an understanding of existing and what is required in system. The analysis phase ends with the system description and a set of requirement of the new system. Analysis is a process of diagnosis the situation with the boundaries of system kept in mind to produce a report based own findings.

7. IMPLEMENTATION

7.1 TESTING:

Testing is a dynamic method for verification and validation, where the system to be tested is executed and behavior of the system is observed. Due to this, testing observes the failures of the system, for which the presence of faults can be deduced. However, separate activities have to be performed to identify the faults and then remove them.

There are two approaches to testing, functional and structural.

- In functional testing, the internal logic of the system under testing is not considered and the test cases are decided for the specifications or the requirements. It is often called black-box testing.
- In structural testing, the test cases are decided entirely on the internal logic of the program on module being tested. The external specifications are not considered. Mutation testing is another approach for structural testing that created mutants of the original program. The testing criterion is to kill all the mutants by having the mutant generate a different output from the original program.
- Unit testing is used to test a module and the focus are combined into sub-systems which are then tested. The goal here is to test the system design.

Structural testing can be used for unit testing, while at higher level mostly functional testing is used.
During the test case, execution phase the test cases are executed and various reports are produced for evaluating testing. The main output of the execution phase is the test log, the test summary report and the error report.

7.2 MAINTAINANCE:

Maintenance is a provision, which includes both the improvement of system functions and the correction of faults which arise during the operating of system. Maintenance activity may require the continuing involvement of a large proportion of computer resources. When we install the software, chances arise in two ways:

(I) As a part of normal running system where errors are found, user may ask for improvement or external requirements change.

(II) As a result of specific investigation and review of system performance.

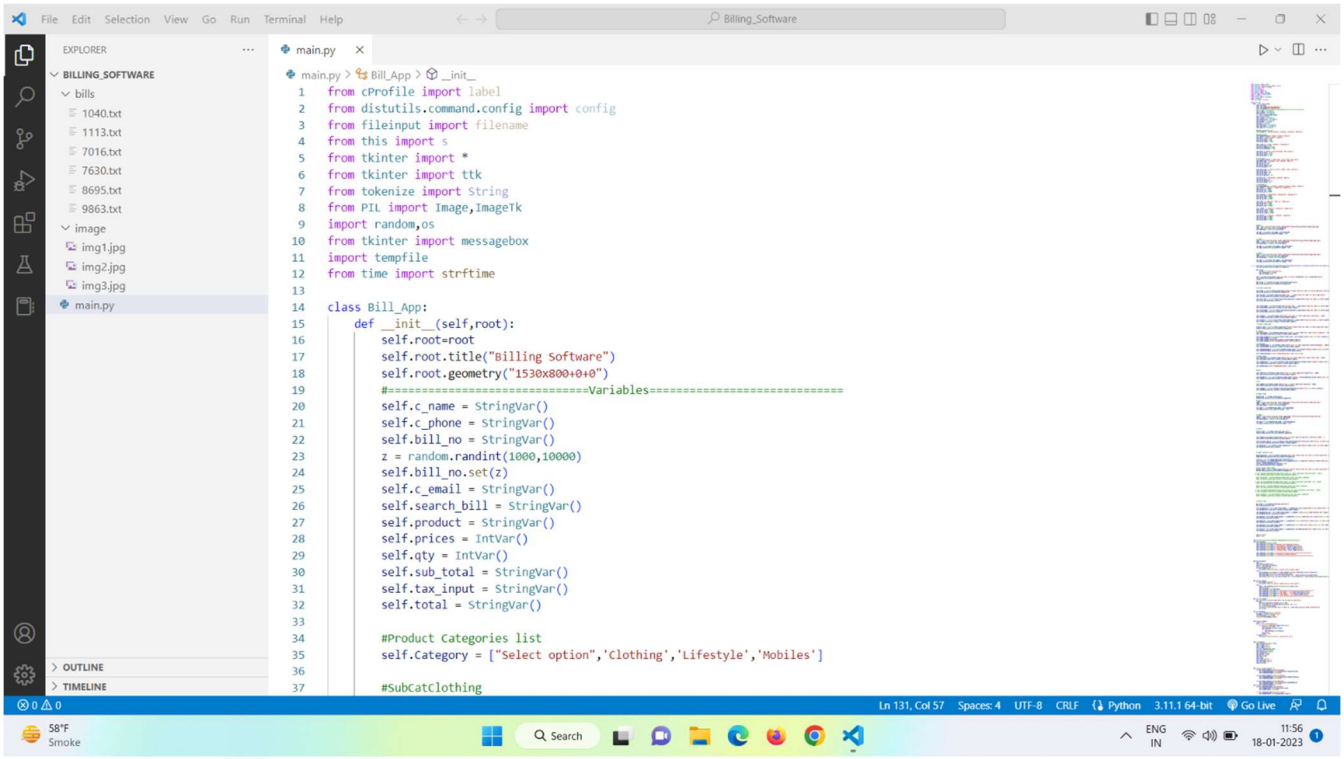
Code:

```
from cProfile import label
from distutils.command.config import config
from fileinput import filename
from this import s
from tkinter import *
from tkinter import ttk
from tokenize import String
from PIL import Image,ImageTk
import random,os
from tkinter import messagebox
import tempfile
from time import strftime

class Bill_App:
    def __init__(self,root):
        self.root=root
        self.root.title("Billing Software")
        self.root.geometry("1530x800+0+0")
        #==============================Variables============================
        self.c_name = StringVar()
        self.c_phone = StringVar()
        self.bill_no = StringVar()
        z = random.randint(1000,10000)
        self.bill_no.set(z)
        self.c_email = StringVar()
        self.search_bill = StringVar()
        self.product = StringVar()
        self.prices = IntVar()
        self.qty = IntVar()
        self.sub_total = StringVar()
        self.tax_input = StringVar()
        self.total = StringVar()

        #Product Categories list
        self.Category = ["Select option",'Clothing','Lifestyle','Mobiles']

        #SubCatClothing
        self.SubCatClothing = ["Pant","T-Shirt","Shirt"]
        self.pant = ["Lewis","Mufti","Spykar"]
        self.price_lewis = 5000
        self.price_mufti = 700
        self.price_spykar = 8000

        self.T_Shirt = ['Polo','RoadStar','Jack&Jones']
        self.price_polo = 1500
        self.price_Roadstar = 1800
        self.price_JackJones = 1700
```

```
self.Shirt = ['Peter','Louis Phillipe','Park Avenue']
self.price_Peter = 2100
self.price_Louis = 2700
self.price_Park = 1740

# Life Style
self.SubCatLifeStyle = ["Bath Soap","Face Cream","Hair Oil"]
self.Bath_soap = ['Lifebuy','Lux','Santoor','Pearl']
self.price_life = 20
self.price_lux =20
self.price_santoor =20
self.price_pearl = 30

self.Face_Cream = ['Fair & Lovely','Ponds','Olay','Garnier']
self.price_fair = 20
self.price_ponds = 20
self.price_olay = 20
self.price_garnier = 30

self.Hair_oil = ["Parachute",'Jasmine','Bajaj']
self.price_para = 25
self.price_jasmine = 22
self.price_bajaj = 30

# SubCatMobiles
self.SubCatMobiles = ["iphone","samsung","Xiome",'realme',"oneplus"]
self.Iphone = ['iphone x','iphone 11','iphone 12']
self.price_ix = 40000
self.price_i11 = 60000
self.price_i12 = 85000

self.samsung = ['samsung M31','sumsung F23','samsung F12']
self.price_sm31 =16000
self.price_sf23 = 20000
self.price_sf12 = 13000

self.xiome = ['redmi 10','redmi 11','redmi pro']
self.price_r10 = 11000
self.price_r11 = 12000
self.price_rpro = 18000

self.realme = ['realme 12','realme 13','realme pro']
self.price_rel12 = 21000
self.price_rel13 = 25000
self.price_relpro = 30000
```

Project Screenshot

1. Main.py



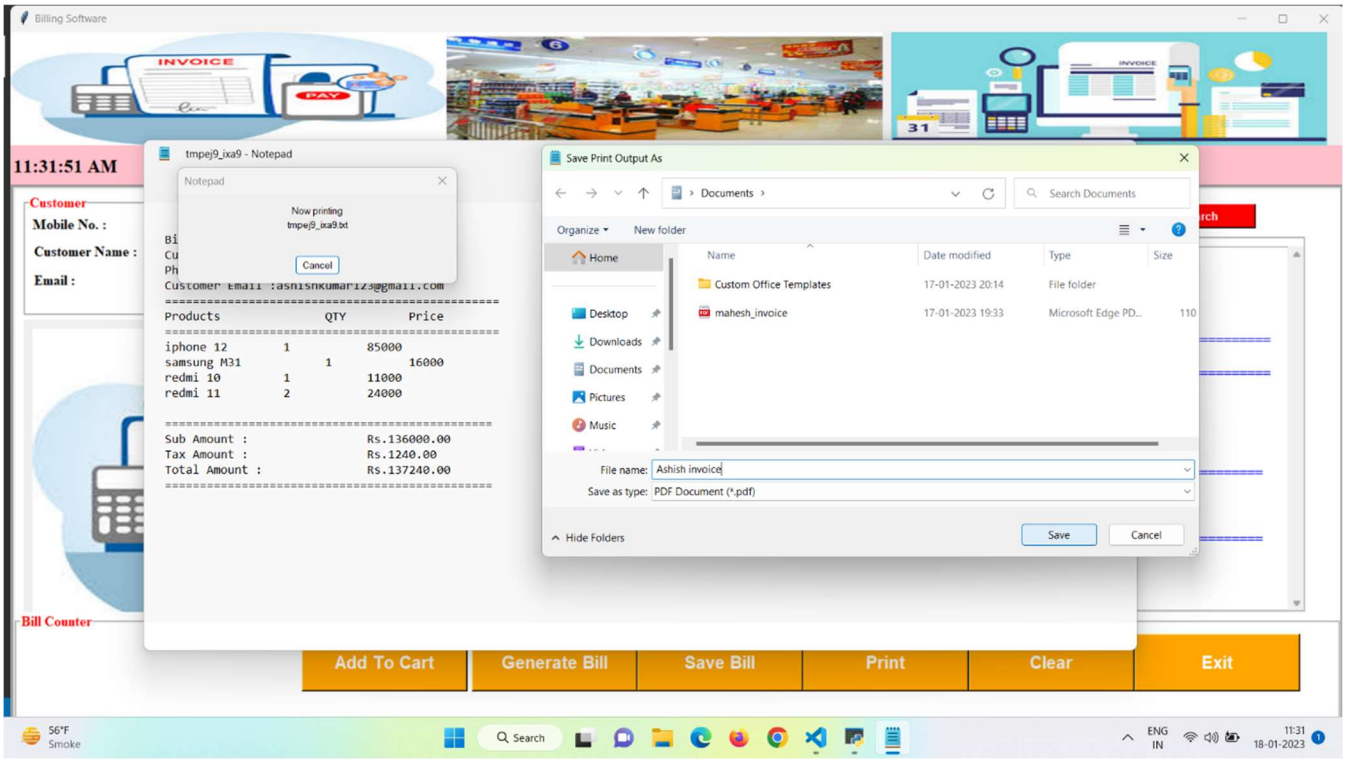
2. After run the source code GUI will appear as shown below:

3. After filling details click on "**Generate Bill**" button.

4. If you want to save the bill then click on "**Save Bill**" Button.

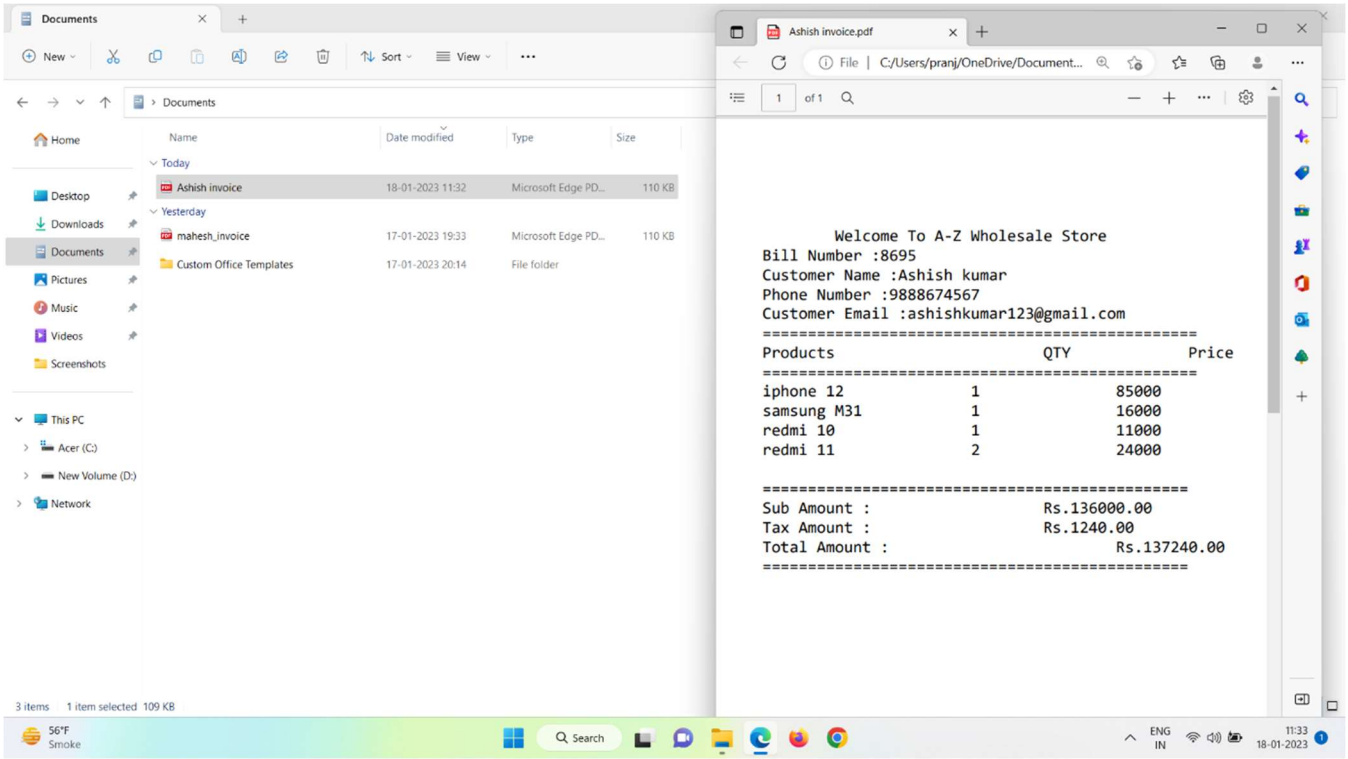
5. A message box will appear to indicating that bill invoice has been successfully saved.

6. After clicking on "**Print**" button either it will go for print or it will go for save in pdf format.



7. If you want to search bill details then simply you can just enter bill number and click on "**search**" button.

8. You can see that everyone's bill is saved here in pdf format.



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Conclusion:

I make **Bill Management System** successfully with the help of python language and it is very entertaining.

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Python: Guido van Rossum

WEBSITES:

http://www.python.org/