

A Project Report On

“Bank Atm Management System”

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TABLE OF CONTENTS

 **INTRODUCTION & AIM**

 **AIM AND OBJECTIVE**

 **DESCRIPTION OF SOFTWARES USED**

 **HARDWARE REQUIREMENT**

 **SDLC MODEL USED**

 **GENERAL OVERVIEW**

◆ **SYSTEM FLOW DIAGRAM**

◆ **CONTEXT LEVEL DFD**

 **MODULES OF PROJECT**

 **PROBLEM FACED WHILE MAKING THIS PROJECT**

 **TESTING & MAINTANENCE**

 **CONCULUSION & FUTURE SCOPE**

 **BIBLOGRAPHY**

INTRODUCTION

Bank Atm Management System is aimed at developing a console based application for storing and manipulating data using trie data structure with MYSQL used as a database language . We are using TRIE to reduce searching, sorting and Input time which are consumed in previous systems .The application will be required a data which will be added by Bank Data Analyst and the application will provide him data handling and manipulation features. While storing data with trie we are reducing collision between data elements while data handling hence saving valuable time and cost.

AIM

The main aim of our project is to reduce the time complexity while searching, sorting and Insertion by using TRIE data structure and minimizing complexity of application.

DESCRIPTION OF SOFTWARES USED

XAMPP:

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends. Consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

PhpMyAdmin:

phpMyAdmin is an open-source software tool introduced on September 9, 1998, which is written in PHP. Basically, it is a third-party tool to manage the tables and data inside the database. phpMyAdmin supports various type of operations on MariaDB and MySQL. The main purpose of phpMyAdmin is to handle the administration of MySQL over the web.

It is the most popular application for MySQL database management. We can create, update, drop, alter, delete, import, and export MySQL database tables by using this software. phpMyAdmin also supports a wide range of operation like managing databases, relations, tables, columns, indexes, permissions, and users, etc., on MySQL and MariaDB. These operations can be performed via user interface, while we still have the ability to execute any SQL statement.

Code::Blocks

It is a free, open-source cross-platform IDE that supports multiple compilers including GCC, Clang and Visual C++. It is developed in C++ using wxWidgets as the GUI toolkit. Using a plugin architecture, its capabilities and features are defined by

the provided plugins. Currently, Code::Blocks is oriented towards C, C++, and Fortran. It has a custom build system and optional Make support.

HARDWARE REQUIREMENTS

Hardware Specification

Since the hardware's are the important part while developing a web project, it's necessary to find hardware requirements.

Processor–

The minimum level of required processor for this platform is Pentium IV with 800 MHz processing speed. Since the time taken for processing the instruction depends on the processor power, so it is very important to choose the required processor.

RAM–

For higher speed of the processing, it also depends on the memory. Therefore, for better performance minimum RAM should be 1 GB.

Hard disk–

In modern days, there is a vast amount of data is to be worked in the application. So, a good size of hard disk is required for the storage of the processed & storing data.

Cache Memory–

Access time of the operation tasks mainly depends on the cache memory. Therefore, the recommended cache memory is 1000 KB.

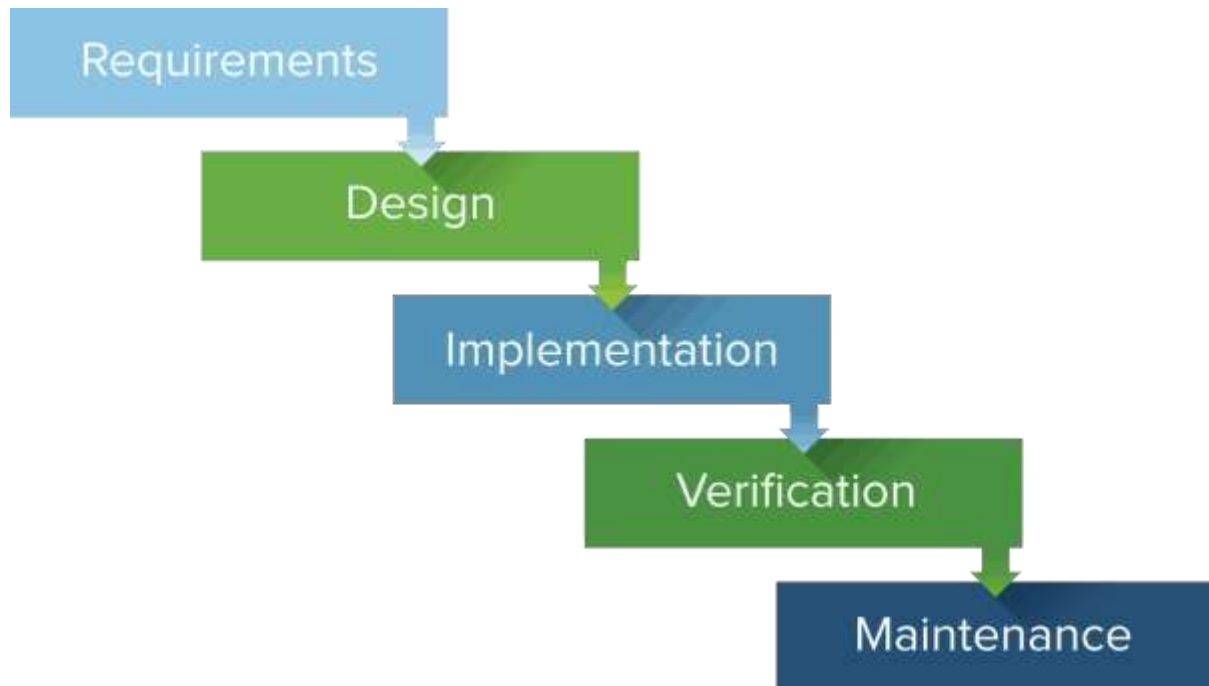
SDLC MODEL USED

We used WATERFALL MODEL as Linear ordering of activities has some significant consequences. First, to identify the end of a phase and the beginning of the next, some certification techniques have to be employed at the end of each step. Some verification and validation usually do this mean that will ensure that the output of the stage is consistent with its input (which is the output of the previous step), and that the output of the stage is consistent with the overall requirements of the system.

The Reason for using WATERFALL MODEL in our project is :

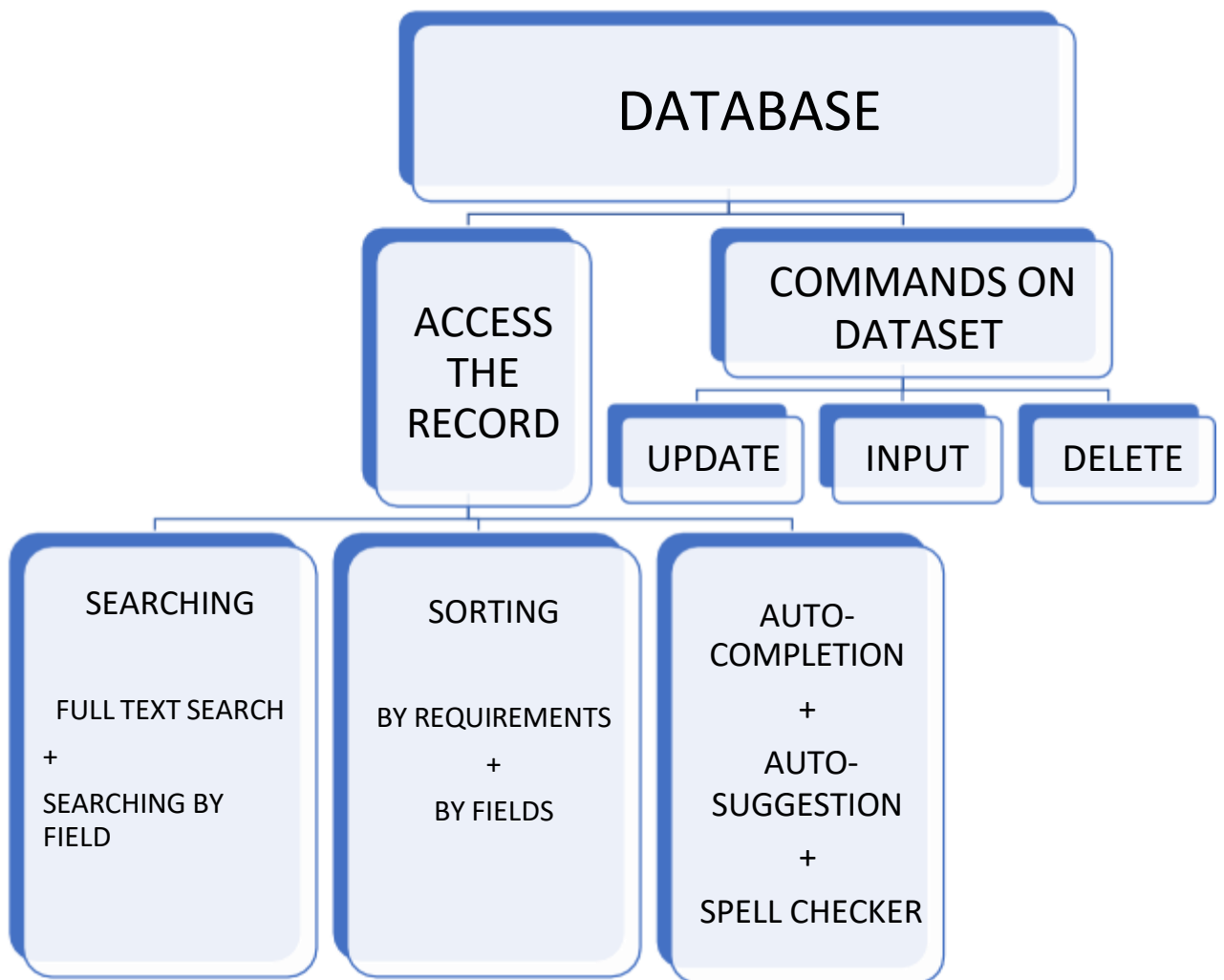
- ❖ Requirements were very well documented, clear and fixed.
- ❖ Technology was adequately understood.
- ❖ Simple and easy to understand and use.
- ❖ There were no ambiguous Requirements.
- ❖ Easy to manage due to rigidity of the model. Each phase has specific deliverables and a review process.

- ❖ Clearly defined stages.
- ❖ Well understood milestones.

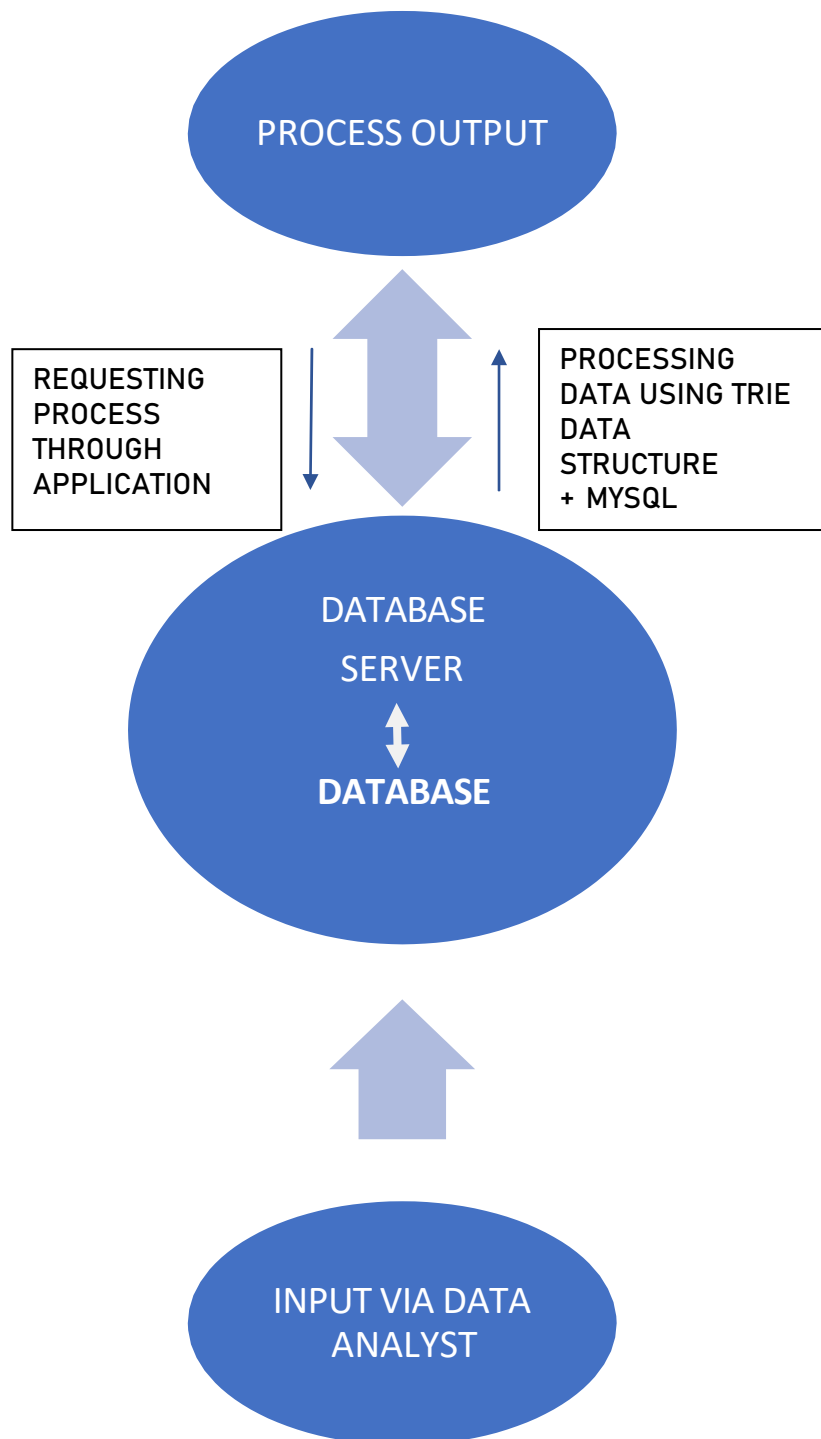


GENERAL OVERVIEW

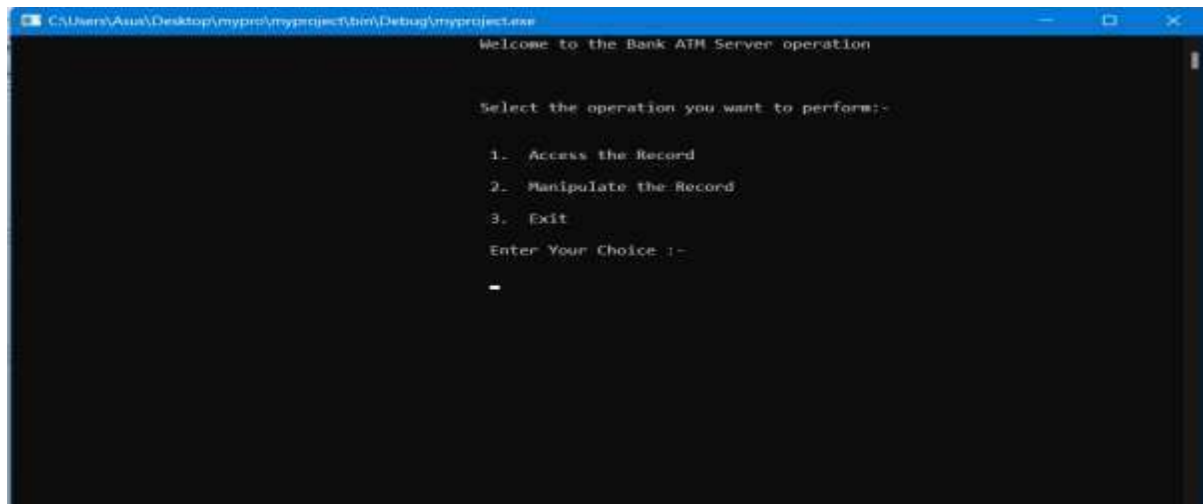
SYSTEM FLOW DIAGRAM



CONTEXT LEVEL DFD



MODULES OF PROJECT



Landing page



Access Operations

ID	NAME	CARD_NUMBER	CARD_TYPE	CITY
1	Parag	1234	Visa	Gwalior
2	Pranshu	3456	Visa	Indore
3	Yashraj	2345	Master	Bhopal
4	Prakhari	2435	Visa	Gwalior
5	Prachi	5567	Visa	Chandigarh
6	Priyanka	6789	Visa	Delhi
7	Priyanka	3456	Master	Goa
8	Payal	6789	Visa	Guwahati
9	Parag	3456	Master	Kochi
10	Pariksha	7890	Visa	Bhopal
11	Deep	2890	Visa	Mumbai
12	Isha	5467	Visa	Gwalior
13	Park	4567	Visa	Bangalore
14	Parkhi	8765	Visa	Jaipur
15	Pankhuri	6789	Master	Mysore

Press Any Key To Return To Home Page :-

Display All the record

(1) Sort by requirements

ID	NAME	CARD_NUMBER	CARD_TYPE	CITY
13	Park	4567	Visa	Bangalore
15	Pankhuri	6789	Master	Mysore
9	Parag	3456	Master	Kochi
1	Parag	1234	Visa	Gwalior
10	Pariksha	7890	Visa	Bhopal
14	Parkhi	8765	Visa	Jaipur
8	Payal	6789	Visa	Guwahati
5	Prachi	5567	Visa	Chandigarh
4	Prakhari	2435	Visa	Gwalior
2	Pranshu	3456	Visa	Indore
7	Priyanka	3456	Master	Goa
6	Priyanka	6789	Visa	Delhi
11	Deep	2890	Visa	Mumbai
3	Yashraj	2345	Master	Bhopal

Press Any Key To Return To Home Page :-

sort by name

3	Yashansh	2345	Master	Bhind
10	Parikram	7856	Visa	Bhopal
5	Prachi	5567	Rupay	Chandigarh
6	Priyesh	6785	Visa	Delhi
7	Priyanshu	3461	Master	Goa
8	Payal	6789	Rupay	Gwalhati
12	John	5467	Rupay	Gwalior
1	Paras	1234	Visa	Gwalior
4	Prakhar	2435	Rupay	Gwalior
15	Pankhuri	6321	Master	Haryana
9	Param	3456	Master	Hoshangabad
2	Pranshu	3456	Rupay	Indore
14	Parkh	8765	Rupay	Jabalpur
11	Uhang	2890	Rupay	Mumbai

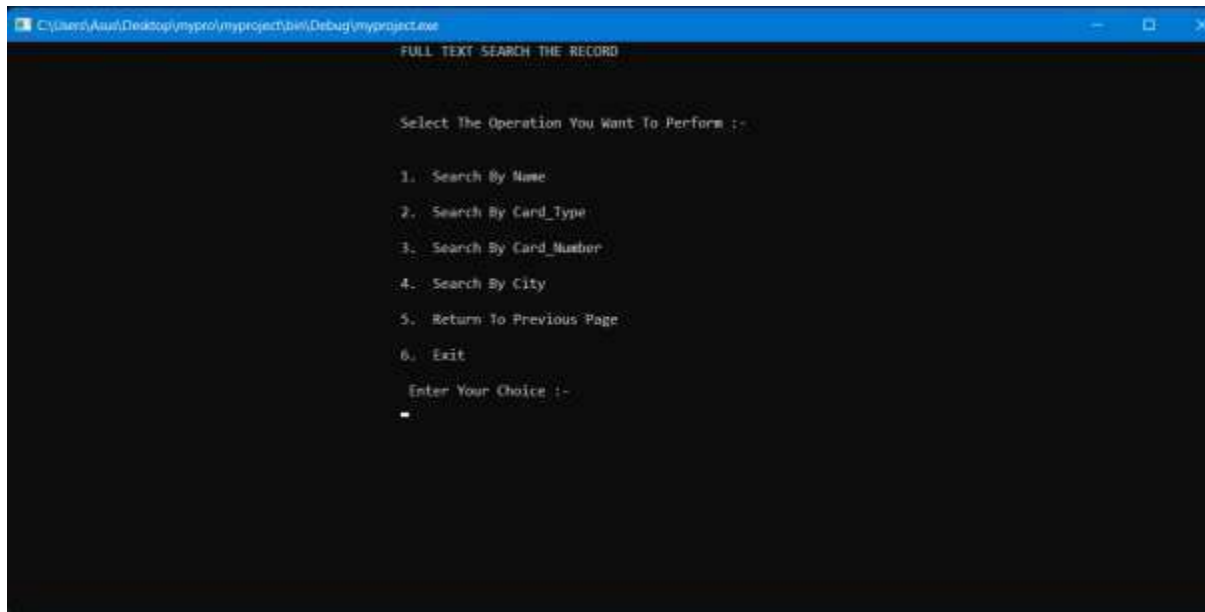
Press Any Key To Return To Home Page :-

sort by city

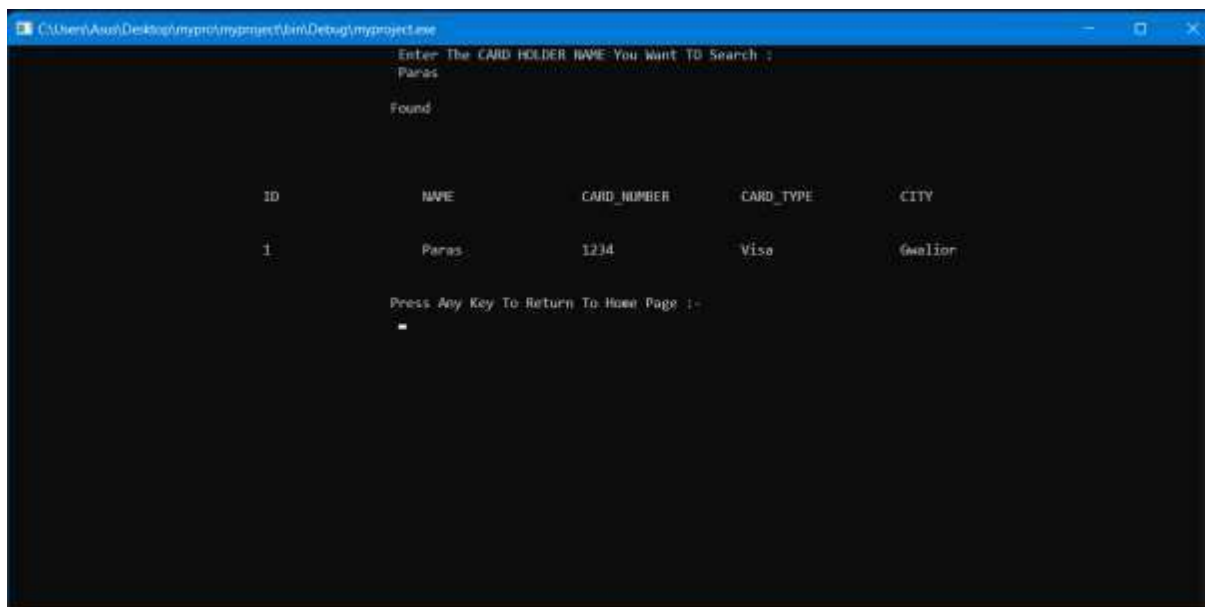
3	Yashansh	2345	Master	Bhind
9	Param	3456	Master	Hoshangabad
7	Priyanshu	3461	Master	Goa
14	Parkh	8765	Rupay	Jabalpur
12	John	5467	Rupay	Gwalior
11	Uhang	2890	Rupay	Mumbai
8	Payal	6789	Rupay	Gwalhati
5	Prachi	5567	Rupay	Chandigarh
4	Prakhar	2435	Rupay	Gwalior
2	Pranshu	3456	Rupay	Indore
6	Priyesh	6785	Visa	Delhi
10	Parikram	7856	Visa	Bhopal
13	Nerk	4561	Visa	Banglore
1	Paras	1234	Visa	Gwalior

Press Any Key To Return To Home Page :-

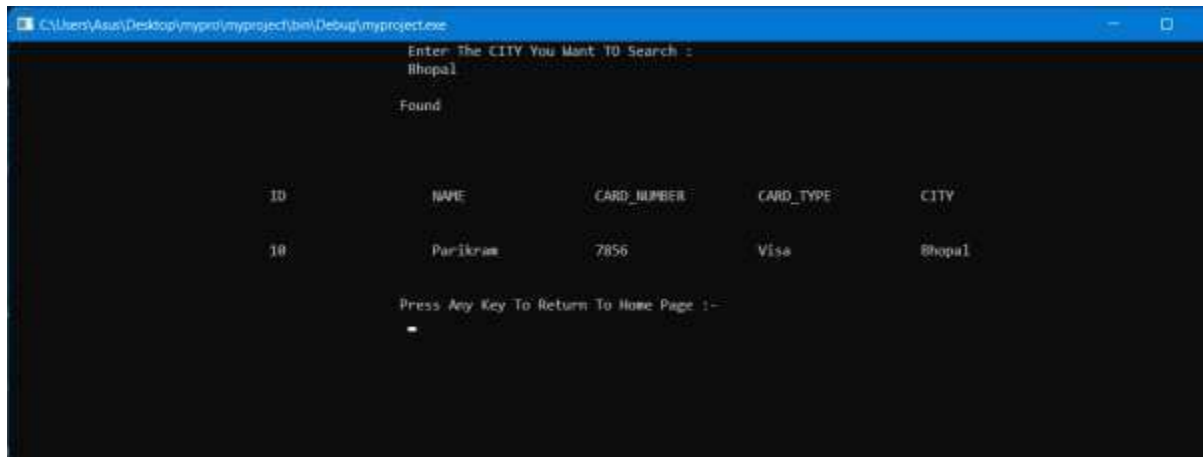
sort by Card Type



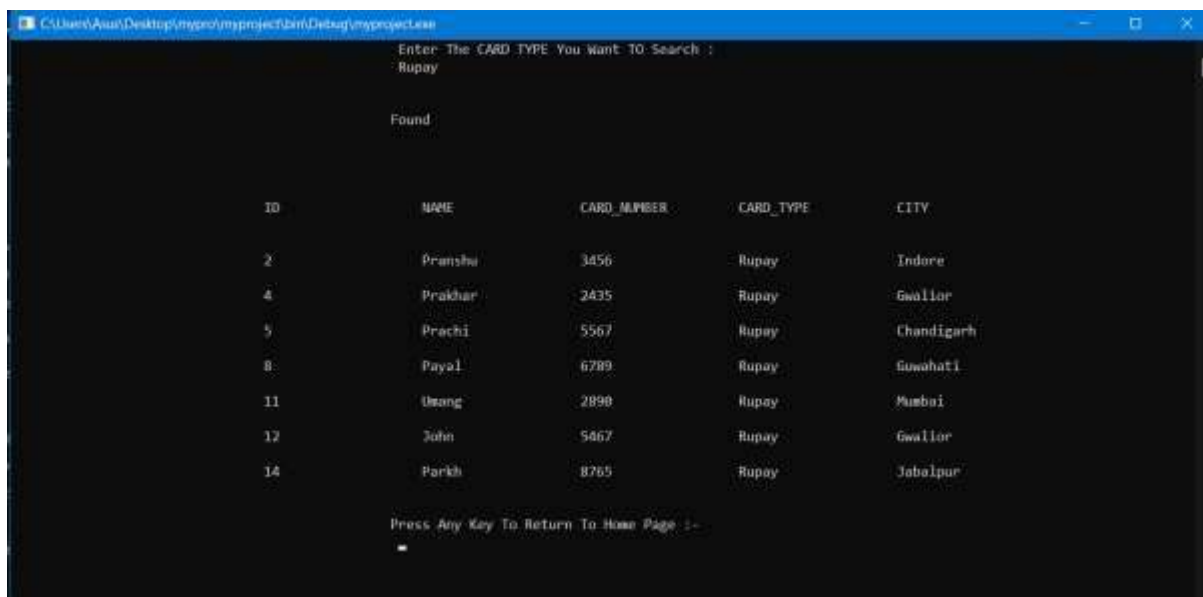
(3) Full text search



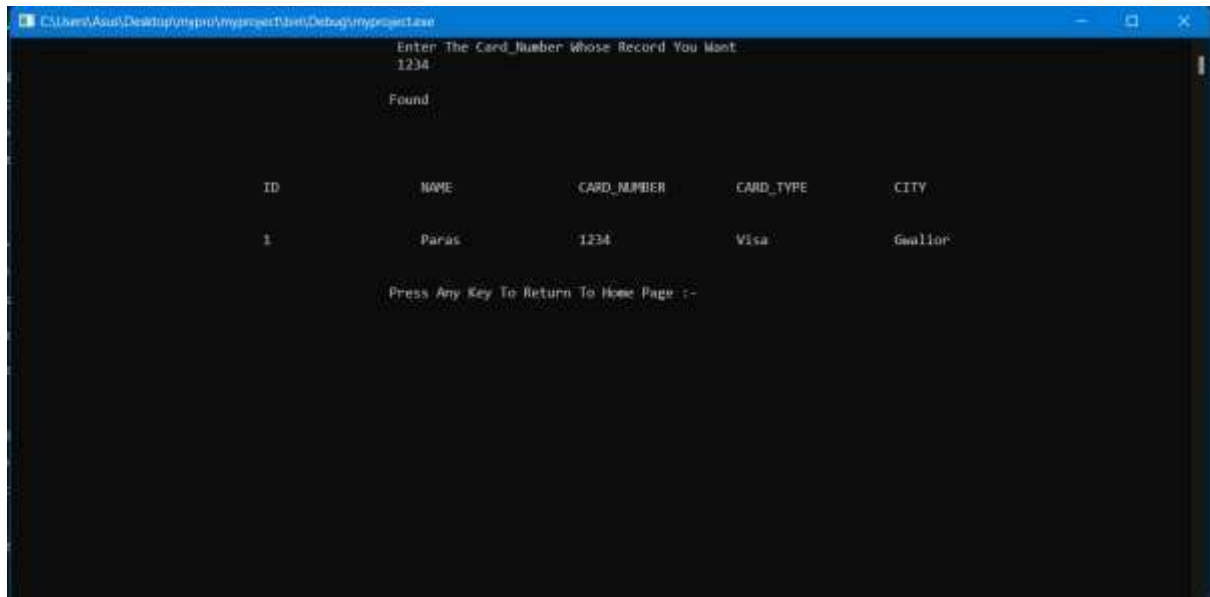
Full text search by name



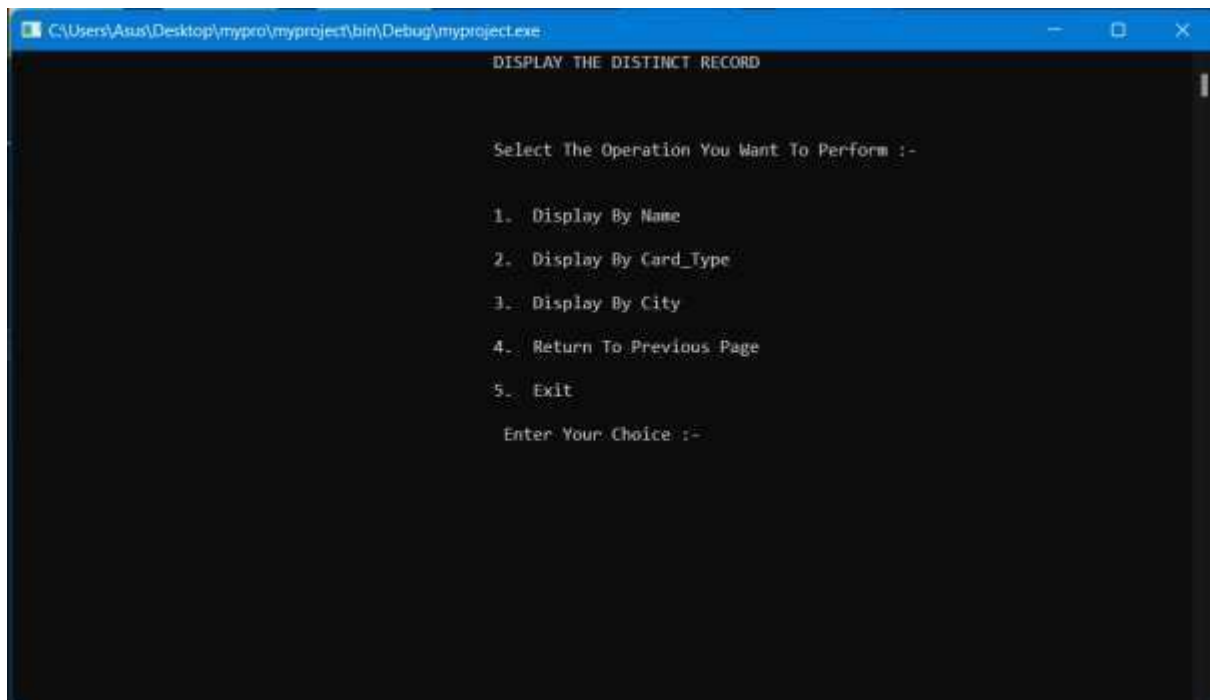
Full text search by name



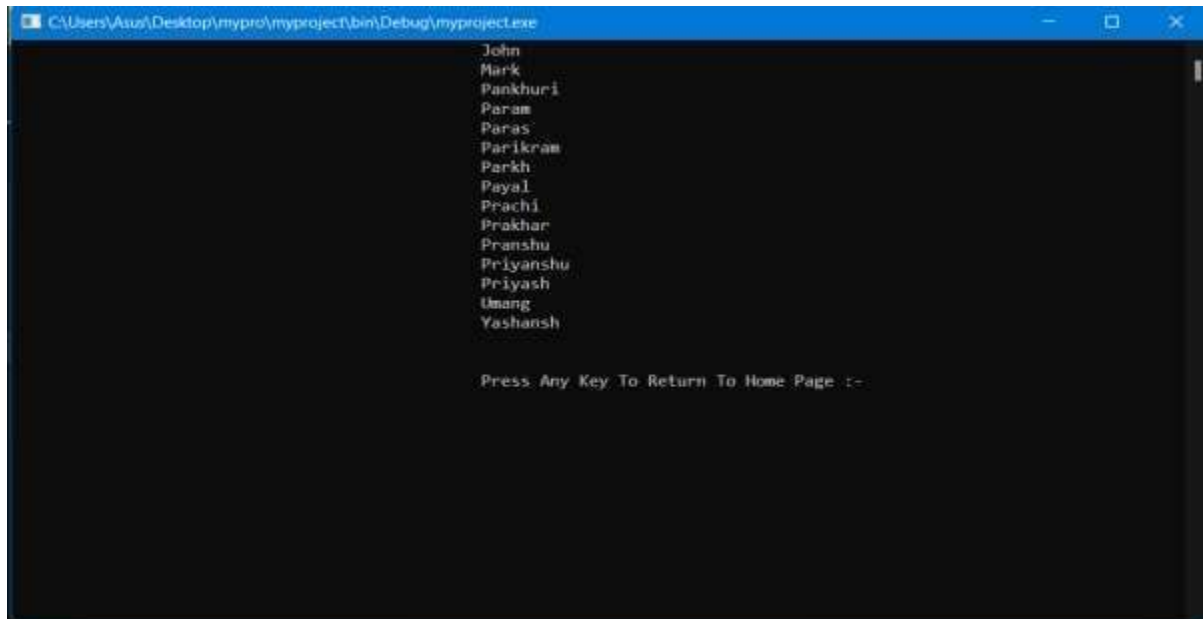
(c) Full text search by card type



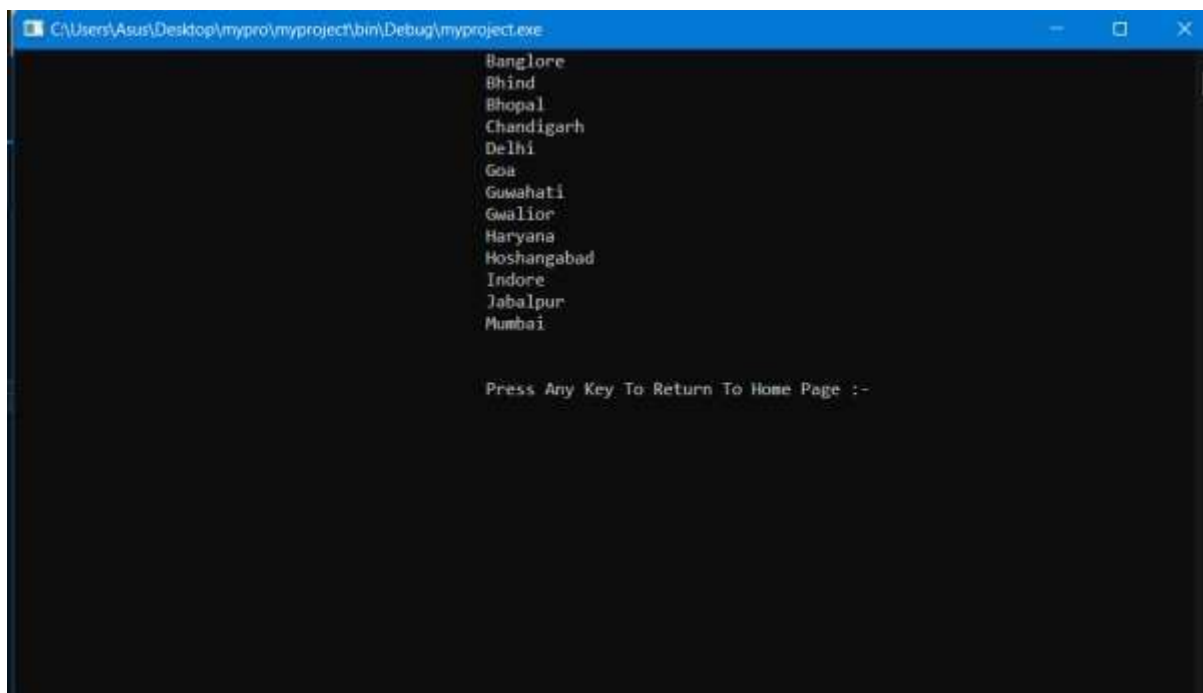
(d) Full text search by name



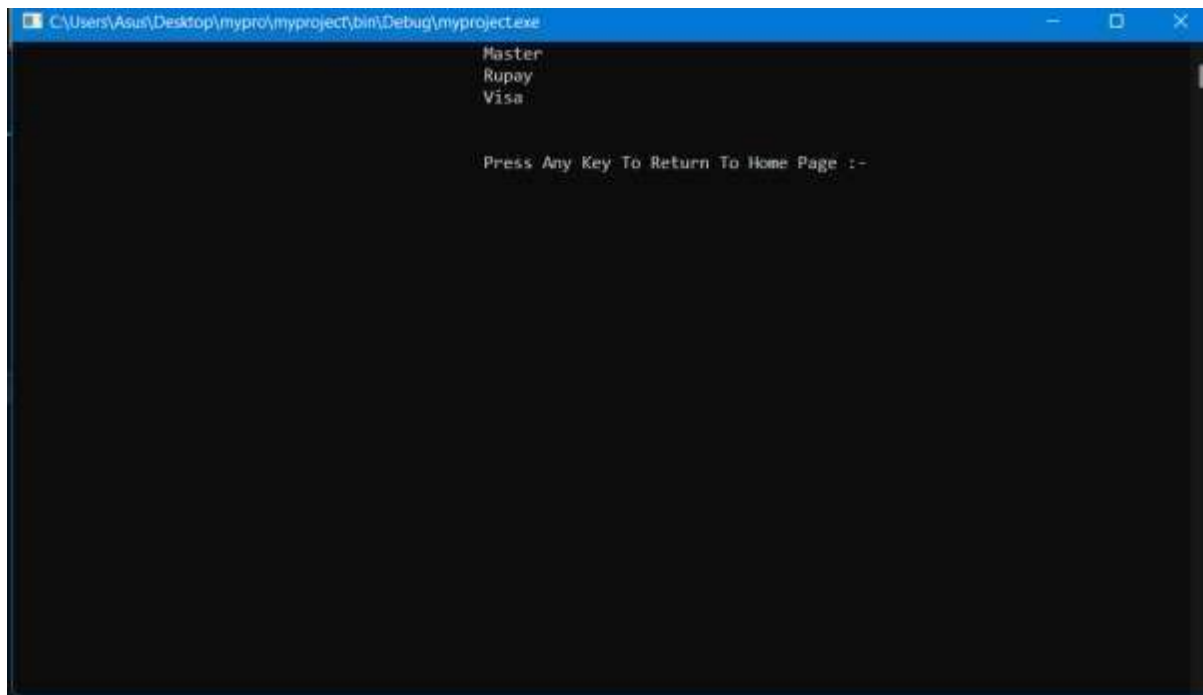
(4) Display Distinct record by field



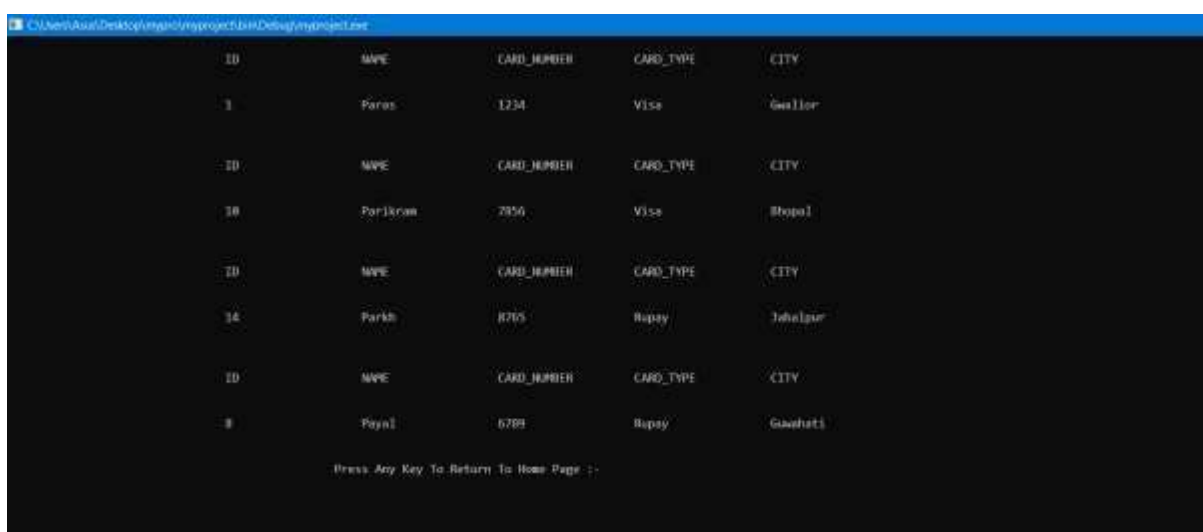
(a) Display by name



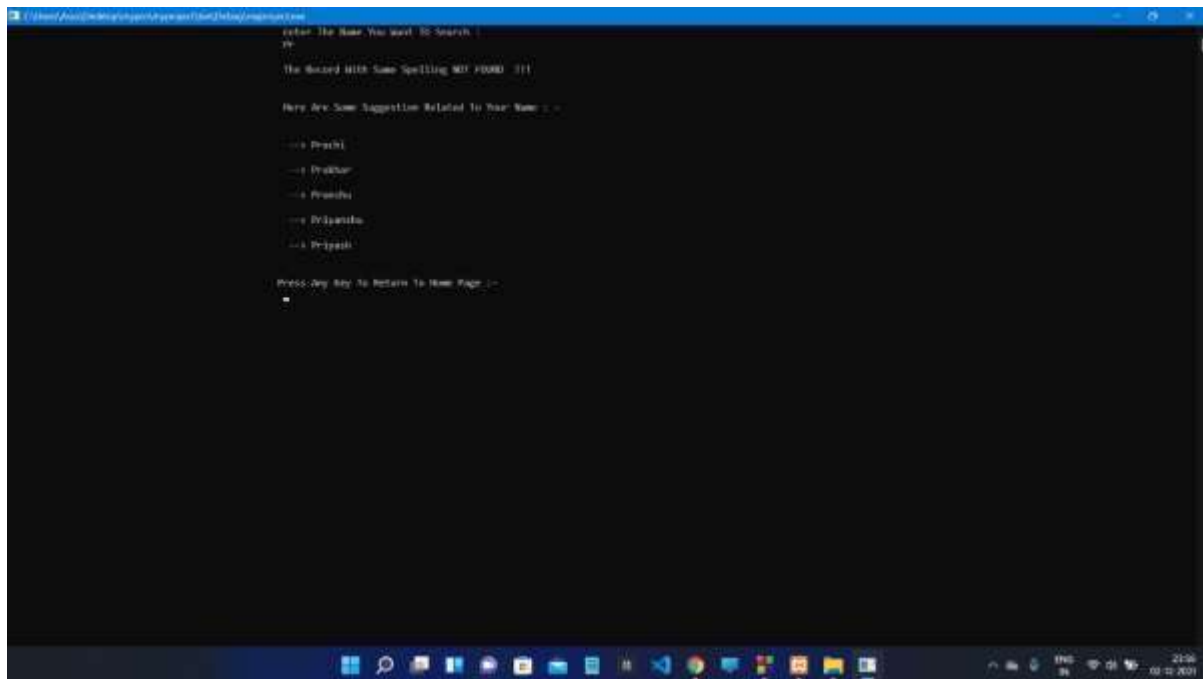
(b) display by city



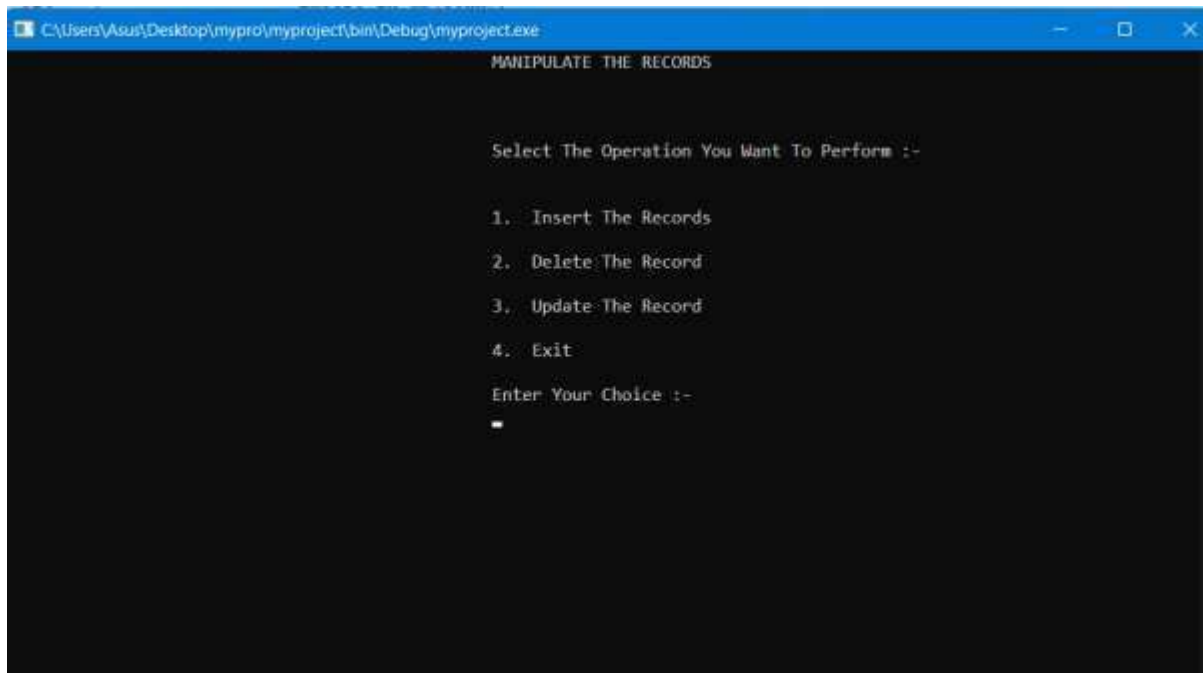
(c) display by card type.



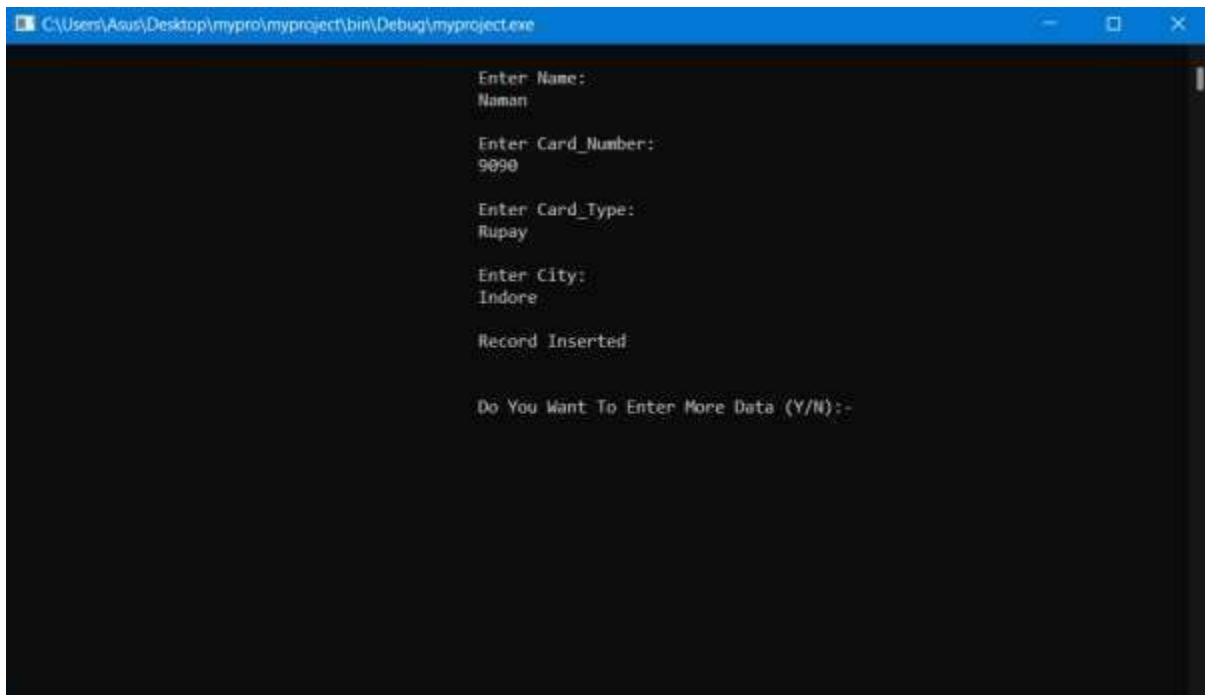
(5) Auto complete operation



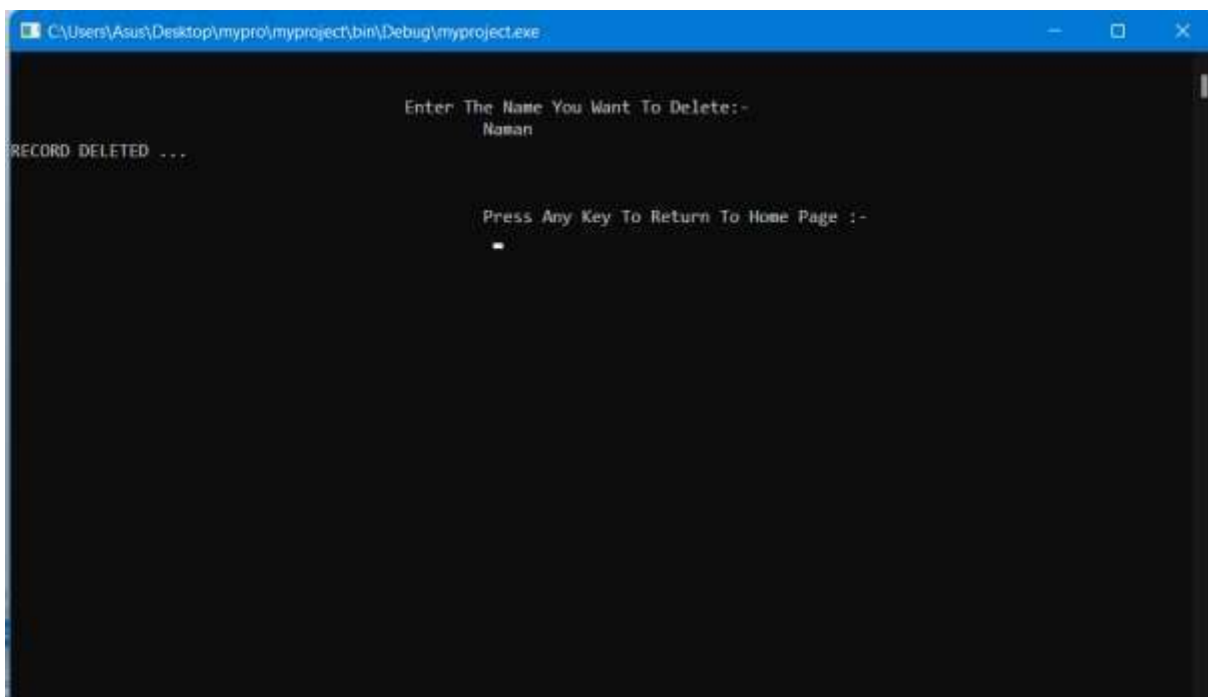
(6) Spell Checker operation



(2) Manipulate the records



(1) Insert the record



(2) Delete the record

PROBLEM FACED WHILE MAKING THIS PROJECT

- ✚ The very first and the crucial problem that was faced by us that was we are developing this project virtually in Covid times in which we are facing extensive mental pressure from our surrounding due to this difficult time for human mankind.
- ✚ The other major problem we faced was we are not familiar with the trie data structure so we need to learn trie data structure from basic and implement it accordingly.
- ✚ Other problem we faced is while establishing server connection to resolve this issue in one of our system we need to change the local host port from 80 to 8080 to run mysql because later port was allocated for some other function in that machine.
- ✚ One more problem faced by us is in implementation of a trie in that we designed trie of small letter alphabets and we are giving inputs in capitals and symbols so that was showing :- Process Returned 1073741819 (0xC0000005)

TESTING & MAINTANENCE

TESTING

Testing of program is done to find error in the given program. It is one of the major steps in the software development process. It is the final step in the software development lifecycle.

Testing Objectives

Testing of program is done to find error in the given program. It is one of the major steps in the software development process. Various type of testing includes system testing, integration testing, unit testing. Each of the testing process test some specific features of the software.

Unit Testing

We have modules in our application of which we tested each and every module of our project individually .

Integration Testing

We have multiple modules in the application after combining them we complete testing of the module and do the integration testing. It checks the co-ordination between various modules of the application.

System testing

System testing is to test the execution of whole software. It answers "Is whole software is running & performing well". System testing is usually coming with verification and validation. Verification is the checking of items, including software, for conformance and consistency with the associated specifications.

MAINTENANCE

When the system is fully implemented, its maintenance is done. System maintenance is done to check whether the software system is performing well or not. If there is any error then we have to remove it.

CONCULUSION & FUTURE SCOPE

CONCLUSION

In this project we used trie data structure to reduce the time complexity of database operations in bank atm management system and we implemented applications of trie data structure with the help of C++ and Mysql database language this help us to remove the redundancy from the code and make system more compact, making it user-friendly and easy to use .

FUTURE SCOPE

In future we can convert it from console based application to web based application, till now we have used prefix search but in future we can add suffix search and its application to the project making it much more convalescent while performing operations and the only reason why trie is not used widely is because of space complexity but that can be reduced by using compressed trie or combining trie with hash-table.

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