**Outpatient Management System**

***Project Code: PRJ 151***

A First Year Project

For the partial fulfillment of requirement for the degree of

Bachelor of Computer Application (BCA)



**Submitted By**

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**Submitted To**

Pokhara University

Faculty of Science and Technology,

Crimson College of Technology

Nov, 2021

**DECLARATION**

We hereby declare that, the project entitled **“Outpatient Management System”** is an outcome of our own efforts under the guidance of **Mr. Nabraj Koirala.** The project is submitted to **Pokhara University** for the partial fulfillment of the ***Bachelor of Computer Application (BCA) Second Semester Examination 2020.***

We also declare that this project report has not been previously submitted to any other university.

**Team Members**

……………………………

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Sakar Aryal Supervisor,

Department of IT,

…………………………. Crimson College of Technology

Himal Aryal

………………………….

Sandhya Khadka

………………………….

Pawan Chaudhary

**BONAFIDE CERTIFICATE**

This is to certify that the project entitled “**Outpatient Management System**” has been carried out by the team member “**Sakar Aryal, Himal Aryal, Pawan Chaudhary and Sandhya Khadka**” under my guidance in partial fulfillment of the degree of Bachelor of Computer Application of Pokhara University, Nepal during the academic year 2020 (Semester II).

……………………………

Mr. Nabraj Koirala

Supervisor,

Department of IT,

Crimson College of Technology

**CERTIFICATE FROM THE EXTERNAL EXAMINER**

This is to certify that the work carried out by **"Sakar Aryal, Himal Aryal, Sandhya Khadka and Pawan Chaudhary"** for the completion of the project entitled "**Outpatient Management System**" in the fulfillment of the requirement of the degree of Bachelor of Computer Application (BCA) has been accomplished, presented and demonstrated successfully.

**………………………………..**

External Examiner

**ACKNOWLEDGEMENT**

We would like to express our gratitude and appreciation to all those who game us the possibility to complete this project report. Special thanks are due to Mr. Nabraj Koirala, Supervisor of IT Department, Crimson College of Technology, whose stimulating suggestions and encouragement helped us in all time and in writing this report. We also sincerely thanks for the time spend proofreading and correcting out many mistakes.

Moreover, we would also like to acknowledge with must appreciation the crucial role of the staff of Library Management who gave us the valuable resources which were the most for undertaking our project work. Last, but not the least we are thankful to our friends for their direct and indirect help, co-operation and encouragement.

**Project Team Members**

Sakar Aryal

Himal Aryal

Sandhya Khadka

Pawan Chaudhary

**PREFACE**

With the change in the time and new discoveries in computer science, human life is no more a static existence. Computer’s invention is the greatest invention of mankind which made out life easier, comfortable and reliable.

We developed this system in DEV C++ in C Programming Language in Windows environment.

We tried to develop the software for the Outpatient Management System, which will provide the easy way to keep the record of Outpatient.

The system has been developed as a collection of several independent modules and any number of modules can be added later without affecting the existing modules.

We all members have tried our best to make this project errorless and if any errors found related to the project will be resolved heartily by us.

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**Abstract**

The proposal entitled “Outpatient Management System” is prepared as partial requirement for the completion of one credit hour course of Bachelor of Computer Application as the second semester project.

The use of computer has made the world smaller. It is quite impossible to think of any information system without the implementation of the computer technology. Computer technology has affected the entire field such as business field, scientific field, management field etc. Users like to access for different information of the Hospital and its patient.

The project mainly emphasizes on providing the information related to Outpatient Department. This helps administrative users to keep record of Outpatient. This project is made up of login-based system which provides secure, user friendly and clean multiple options for the administrator.

From the technical point of view, the C programming is used and the project can run even in Windows 98 and will low processor computer. For designing the system, we’ve used Window 10 OS with Intel Core i5 5th Gen processor with 8GB RAM and 500GB SSD.

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**UNIT 1**

**INTRODUCTION**

**INTRODUCTION**

The project aims at developing a login-based Outpatient Management System using the C Programming Language that enables a hospital to maintain its records.

The software consists of two sections i.e., Login Section and Admin Section. In login section, admin have to login their account with the previously set credentials or have to register account if they haven’t registered before. In the same section, if admin forget the password, there is an option to reset password.

When user get logged in, they will be promoted to Admin Section, where they get multiple options like to Add Patient, Update Patient, Search Patient, Delete Patient and Change Password too.

The software demonstrates the creation of a user interfaces of a system without the use of C Graphics Library. The application uses the basic C features to generate menus and print text on the screen. To display text according to the application requirements functions have been generated in the application. The application also implements the concepts of structures to define the Patients records. It also effectively applies the various C concepts such as FILE operations, Looping, Branching, Constants, Data and String manipulation functions.

**OBJECTIVES**

* To develop secure login-based Outpatient Management System.
* To provides a clean, user-friendly menu options for the user.
* To demonstrate the creation of a user interface of a system without the use of C graphics library.
* To make use of the basic C features to generate menus and display the text on the screen.
* To display text according to the application requirements, functions have been generated in the application.
* To effectively applies the various C concepts such as File Operation, Looping, String manipulation, Time functions.
* To gain good knowledge about file processing, looping, structures, functions, pointers etc.

**APPLICATIONS**

This is login-based application that provides secure and password protected system to the user. User can’t access the record nor manipulate the record until they logged in to the account.

**Options Available**

1. Register/Login
2. Forget Password
3. Credits
4. Exit Program

**Once User Logged In**

1. Add Patient
2. Update Patient
3. Search Patient
4. Delete Patient
5. Change Password
6. Exit Program
7. Logout

**FEATURES**

1. Encrypted Password

2. Secure

3. Easy to use

4. Reliable and accurate

5. Clean and User-Friendly User Interface

**LIMITATIONS**

1. No online mode.

2. Advance validation is not done.

3. Unexpected input may crash the program.

**Unit 2:**

**Project Development Life Cycle**

**Project Planning and Feasibility Study:**

Before buying any software, we have to go through the system that is beneficial for our daily activities. On the basic of the required information the project should be planned. A feasibility report is prepared to resent in depth techno commercial analysis carried out on the project idea.

**Requirement Analysis**

This is the one of the important phases of the PDLC. In this we come up with a detail report from the different field for finding the business. We need to get the entire requirement regarding the problem otherwise it creates a lot of problem in future. We need to be clear about the way to stock used to be recorded and how the owner wants those goods to be record in this system.

**System Design**

Design refers to the modules used to build in the software development. There are different modules such as E-R diagram, DFD'S Flowchart etc. These modules help in the design of the program. According to the need of the programmer such modules are used.

**Methodology**

We have used Water Fall Model to develop this project. This model consists of the following phases:

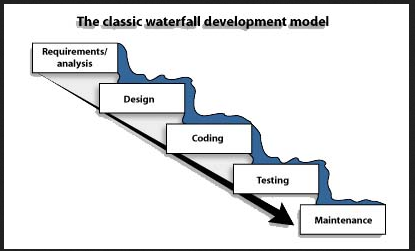


Fig no 1: Water Fall Model

**Coding**

On the basis of the system design, we did the coding of the system. The coding is done using the programming language. The technology used for coding in this project is programming language C. It will develop in window platform. C=C is a general language and used as general purpose. It was first used as the system language for UNIX operating system.

**Debugging**

We have debugged our program for finding the reducing the number of bugs or defect in a computer or a piece of electronic hardware thus making it behave as expected. The basic steps that we have used in our program are:

* Recognize that at bugs exits
* Isolate the source of the bug
* Identify the cause of the bugs
* Determine a fix for the bugs
* Apply the fix and test it.

**Testing**

Testing is the process of debugging of the software i.e., discovering the errors of the bugs and removing them. Actually, we have tested a program to work correctly, to discover the causes of these errors, and to revise the program code to eliminate the errors. Our tested program has a final measure of quality assurance for software product during the later phase of the system development life cycle.

Thus, as we have tested our program using various techniques (testing processes), our software is free of errors and can serve best.

**Implementation**

System implementation generally focuses on the coding and installing of the system. Our system implementation is composed of activities, which are coding, testing and installation. The purpose of these steps is to convert the physical system specification into the working and reliable software.

**Documentation and Evaluation**

We have all documents all the activity performed during the development of the system, which will be very useful in the future modifications and changes.

As per time being, if the vendor wants to make some amendments in the existing programs of his system the developer should edit as per his requirements.

**Unit 3:**

**System Requirements**

**Hardware Configuration**

For smooth running of the project the following minimum hardware is needed.

* Pentium i-55 MHz or higher
* VGA or other display compatible with Windows
* 16 MB of RAM
* 200 MB of Hard disks

**Software Configuration**

Choosing a programming language appropriate to the system is equally important as designing a system. Now, there are many languages and packages available and all have their own importance in their respective fields. We developed our project in Windows environment using C language for smooth running of the project, the following minimum software is needed.

* Windows 98

**Unit 4:**

**Time, Cost and Task Division**

**Time and Cost**

Time, Cost and Task Division plays a vital role in the software development. So, the above factors should be properly considered while developing the software.

The estimated time duration of this application is 1 month. We should develop such type of software that could be prepared within 1 month.

|  |  |  |
| --- | --- | --- |
| **SN** | **Activities** | **Price (Nrs)** |
| 1 | Internet Usage | 300 |
| 2 | Transportation | 100 |
| 3 | Electricity | 300 |
| 4 | Designing | 100 |
| 5 | Testing | 100 |
| 6 | Miscellaneous Expenses | 600 |
|  | **Total** | 1500 |

**Table No 1.1 Cost Estimation**

**Task Division**

This project is prepared in a group. The Name of the members of the and their task division are given below:

|  |  |  |
| --- | --- | --- |
| **SN** | **Name of Students** | **Task Performed** |
| 1 | Sakar Aryal | Coding and Testing |
| 2 | Himal Aryal | Requirement Analysis, Design and Testing |
| 3 | Sandhya Khadka | Data Collection, Rough Sketching and Testing |
| 4 | Pawan Chaudhary | Feasibility Study, Preparing Report and Testing |

**Table No 1.2: Task Division**

**Unit 5:**

**Appendixes**

**5.1 Gantt Chart**

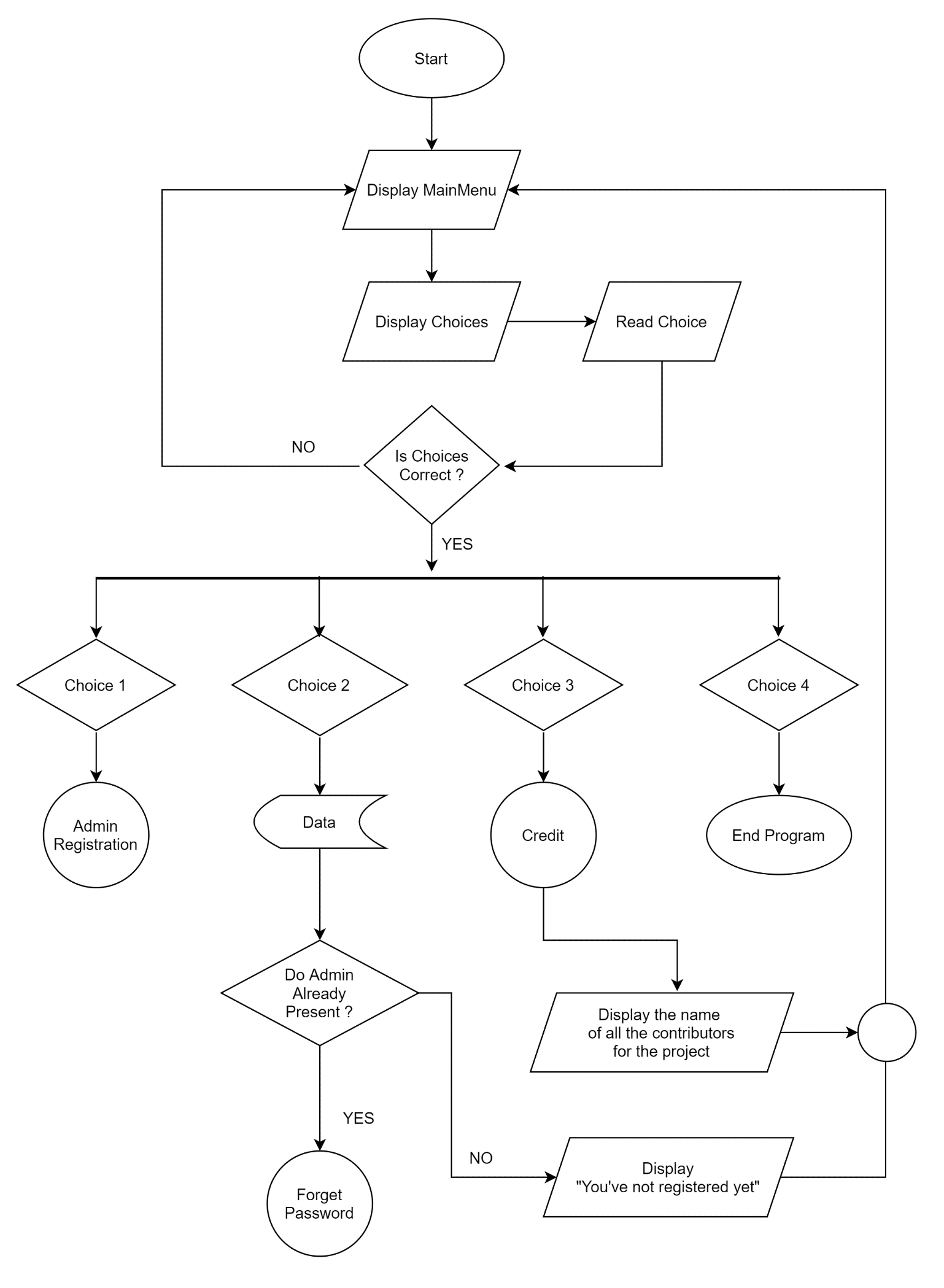
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| --- | --- | --- | --- | --- | --- | --- | --- |
| **SN** | **Tasks** | **Oct**  **10-15** | **Oct**  **16-20** | **Oct**  **21-31** | **Nov**  **1-5** | **Nov**  **6-8** | **Nov**  **9-11** |
| 1 | Analysis |  |  |  |  |  |  |
| 2 | Design |  |  |  |  |  |  |
| 3 | Coding |  |  |  |  |  |  |
| 4 | Testing |  |  |  |  |  |  |
| 5 | Implementation |  |  |  |  |  |  |
| 6 | Maintenance |  |  |  |  |  |  |

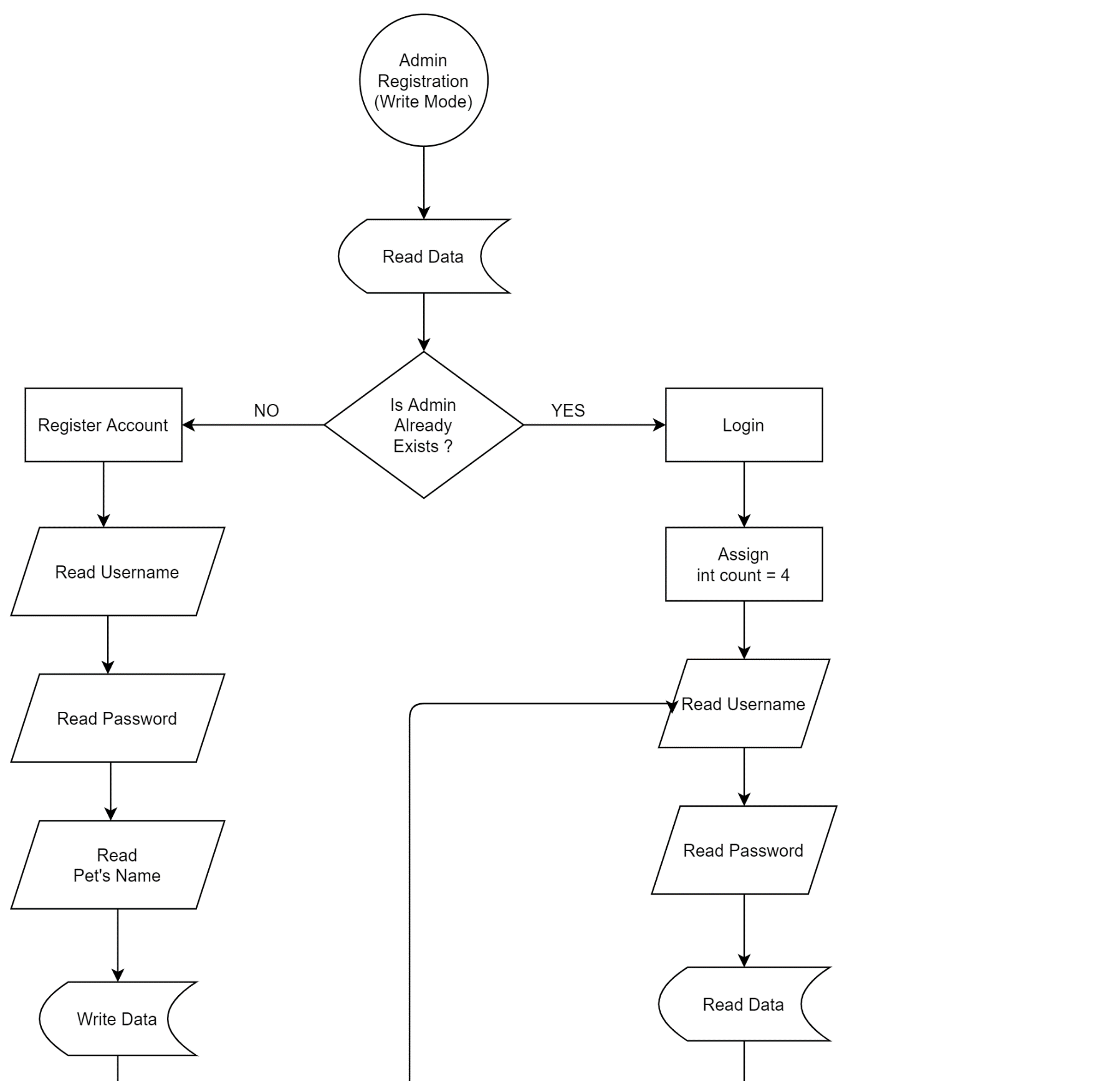
**Index**

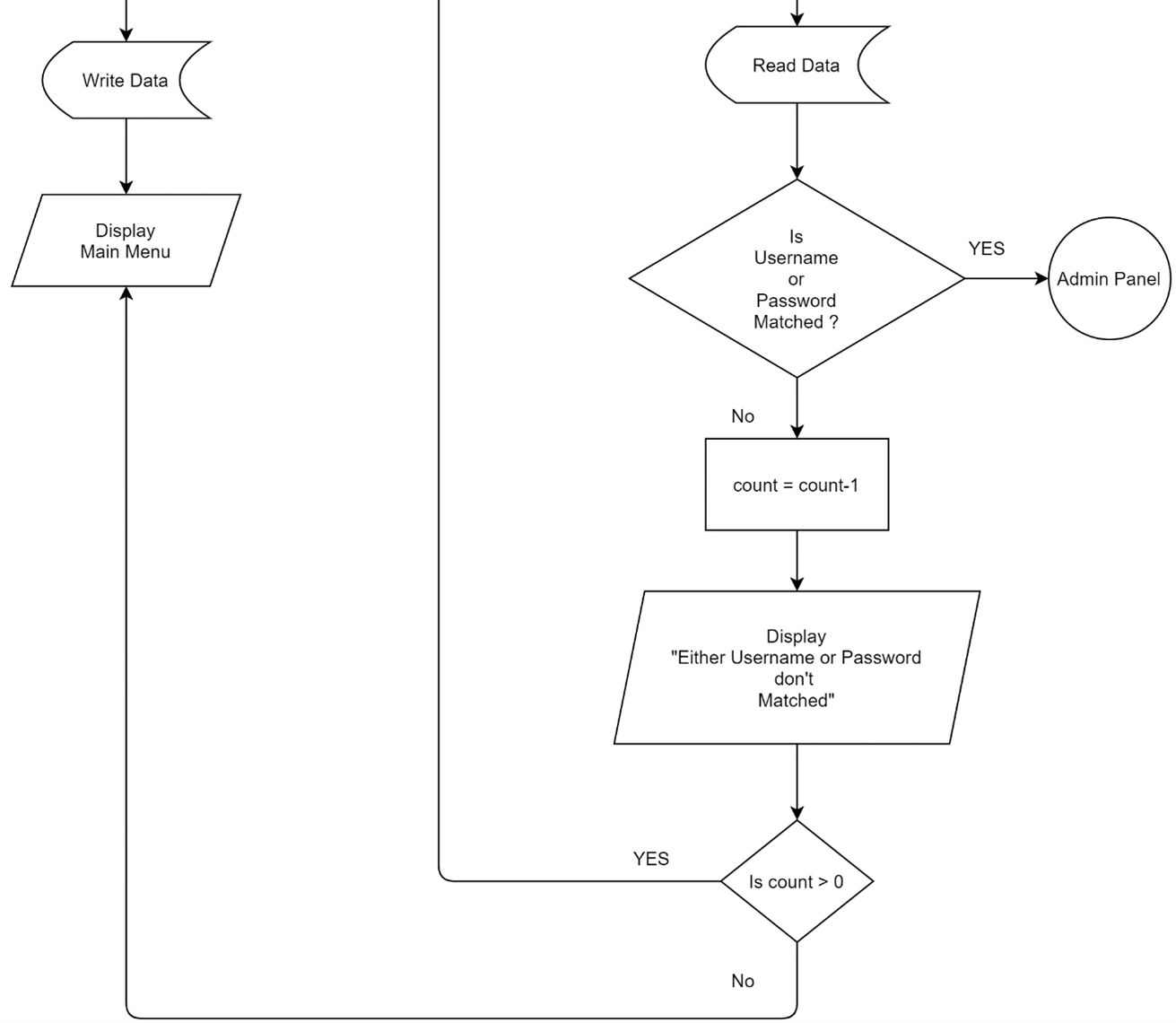
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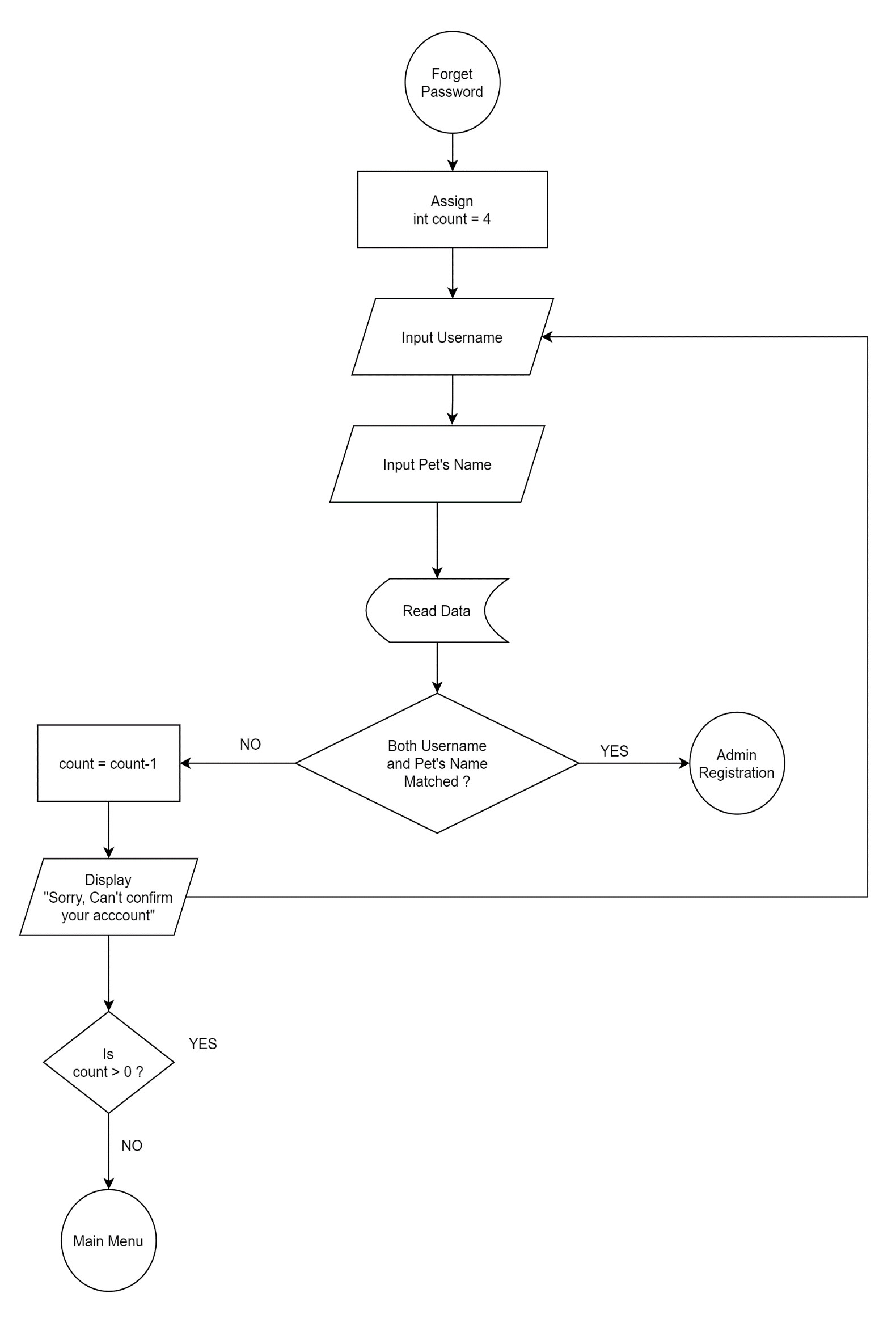
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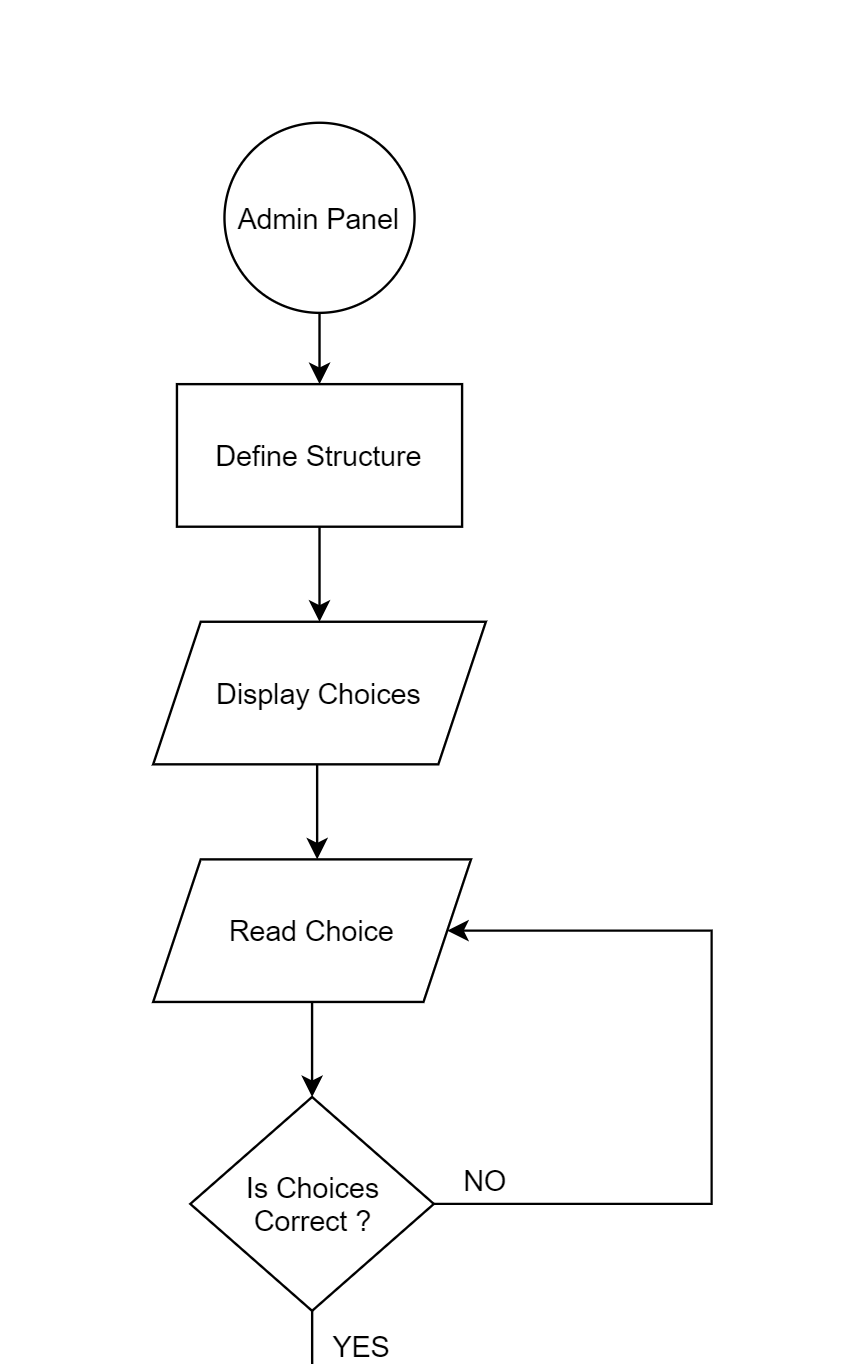
**5.2 FLOWCHART**

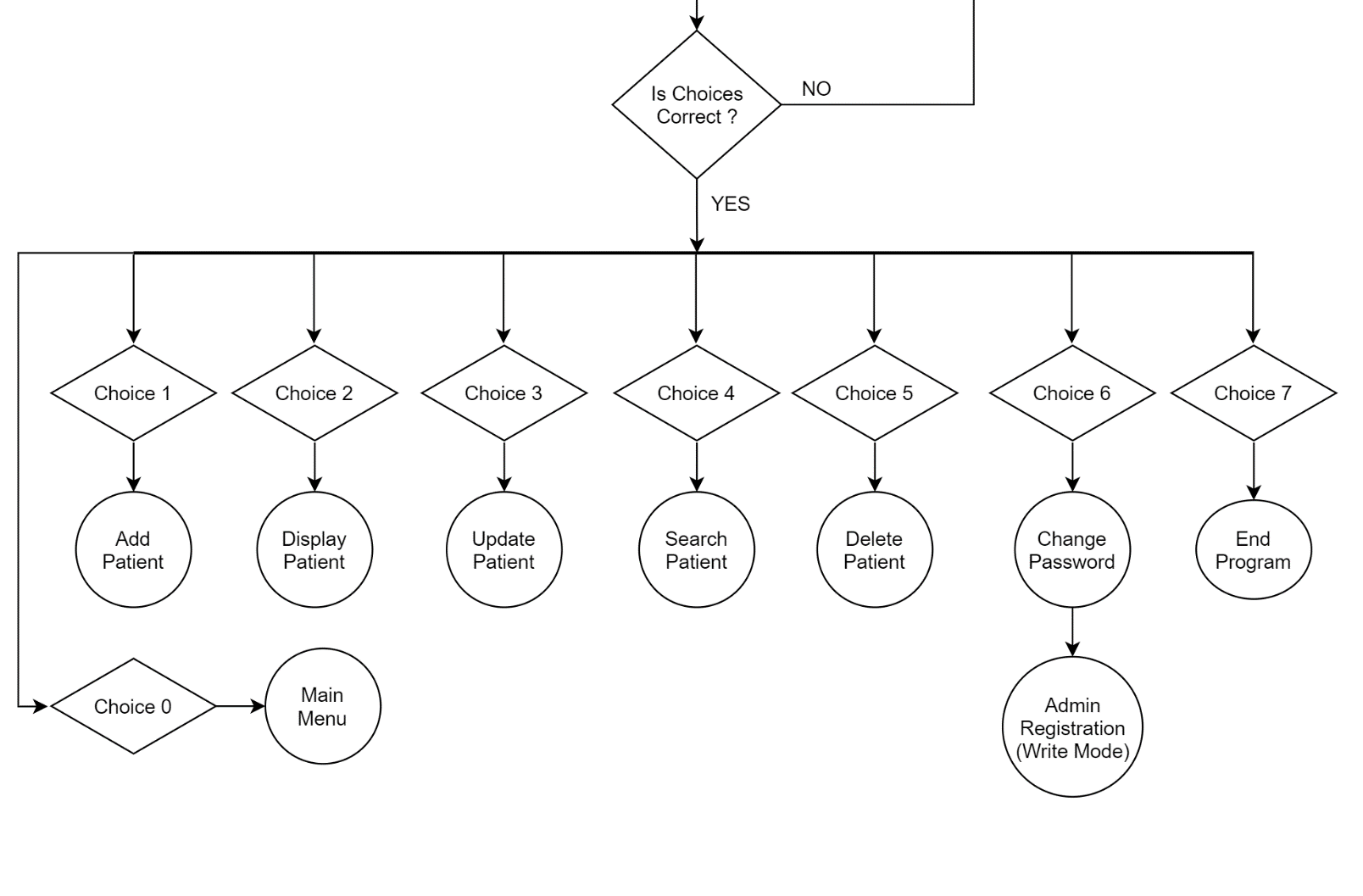
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