

# Lost and Found Management System: C++ Implementation Using Linked Lists Based on Technological Institute of the Philippines

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## **M E M B E R S :**

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# 1. OBJECTIVE(S)

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## General Objectives:

- follow a specific data structure to be implemented in our program:
- Linked List
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## Specific Objectives:

- The program will be done using C++ programming language
- The program will utilize linked lists as a data structure for processing the lost and found registration
- The terminal of the program and its output will be in a Terminal Window

## 2. INTENDED LEARNING OUTCOMES (ILOS)

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- Develop a C++ code that utilizes linked list for managing lost and found items
- To learn file handling for data storage: Students will develop skills in saving and loading data from text files to maintain records of user's email, student number and password, lost items, and claimed items.

# 3. DISCUSSION

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## Introduction

### Background of the Study

In a world characterized by rapid technological advancements, the need for efficient and smooth systems to manage everyday challenges becomes increasingly evident. One common issue in schools, public spaces, and workplaces is the loss of items. This is a common phenomenon that can lead to inconvenience and frustration for both individuals and administrators. To address this issue, the researchers propose creating a "Lost and Found Management System"-based Linked List C++ program. The program aims to transform the way lost items are reported, tracked, and returned, ultimately enhancing the overall experience for users and administrators alike (Ariyarathna, U. 2023).

# OBJECTIVE(S) OF THE STUDY

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- The study aims to utilize C++ to create a Lost and Found Management System: C++ Implementation Using Linked Lists Based on the Technological Institute of the Philippines

1. Specifically, the study aims to:

Create a program that allows students to:

- Where students can Submit a Lost Item
- Allows students to Search for Items
- Students can View Claimed Items
- Allows students to Claim an Item

2. Test the program on distinct students from different courses.

# SIGNIFICANCE OF THE STUDY

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- This research is made with the aim to provide information and knowledge to know the effectiveness of the lost and found management system of the Technological Institute of the Philippines.
- Students. The study's findings may assist students reduce the hassle of reporting lost and discovered things on campus. Students frequently misplace their belongings on campus, so a system like this would be handy.
- Instructors. The study can be beneficial to the instructors because this can help their students determine the scores and grades for major exams with the desired grade and class standing. It can also be a tool to calculate the overall grades of the students.
- Future Researchers. This study will serve as a guide, reference, or blueprint for future researchers in making their projects about calculators or studies about the academic performance of the students. They have the potential to expand and improve the project.

# SCOPE AND DELIMITATION

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- The scope of this research is mainly focused on 4 choices; Submit a Lost Item, Search for Items, View Claimed Items, and Claim an Item. These processes will be achieved by providing the needed information, which varies for each process.
- For the delimitation on the other hand, the study is specifically focused on the usage for the college students at the Technological Institute of the Philippines, Quezon City Campus, the system is calibrated to work within the parameters set by TIP and may not be compatible with other institutions or campuses that have different procedures or requirements. Modifications to the system's functionalities or workflows are not supported, as it follows a particular design and structure intended exclusively for TIP's environment.

## 4. MATERIALS AND EQUIPMENT

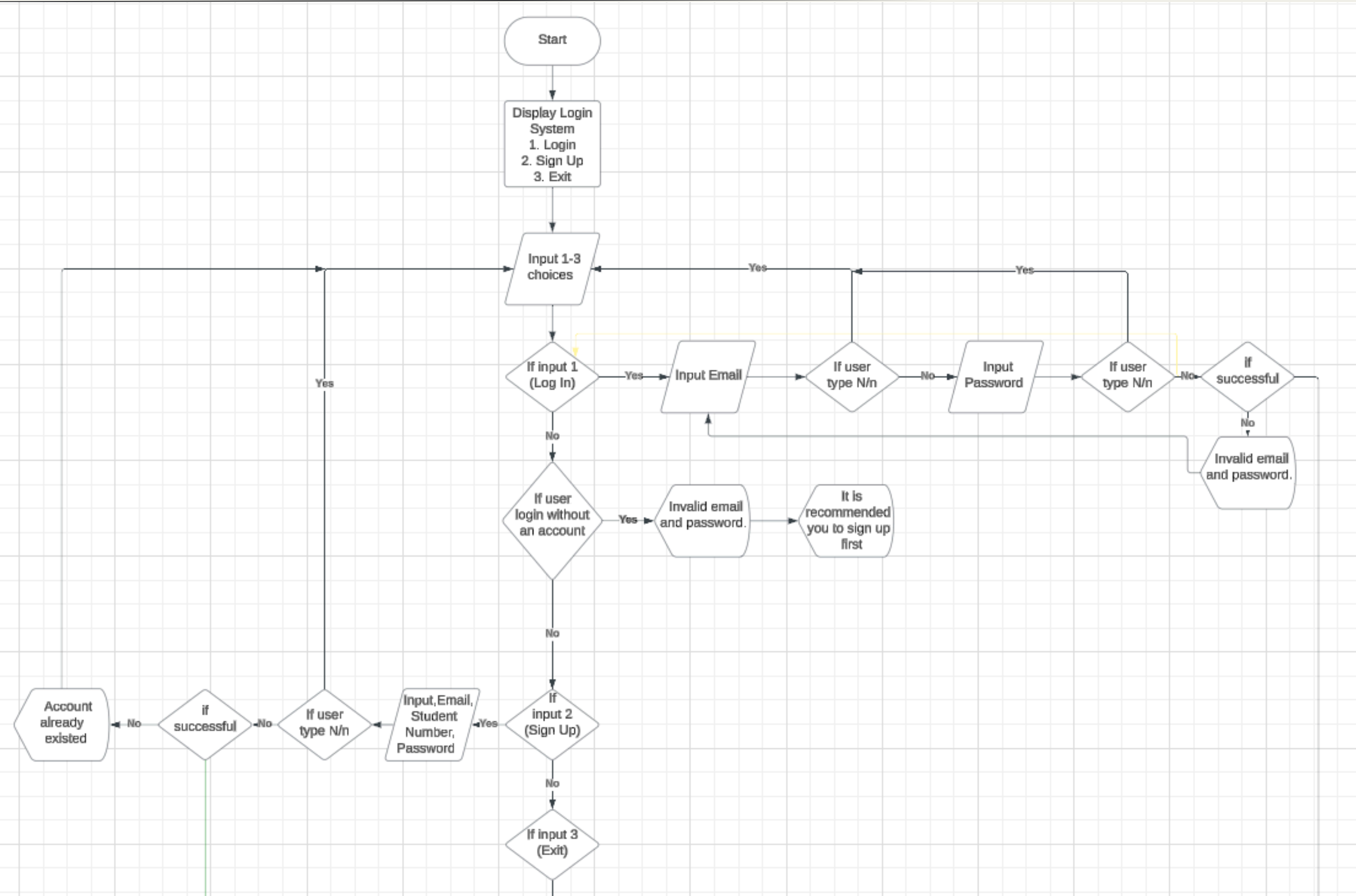
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- Personal Computer with C++ IDE
- Personal Laptop and Computer
- DevC++ Embarcadero
- Visual Studio Code
- Github
- Google Drive



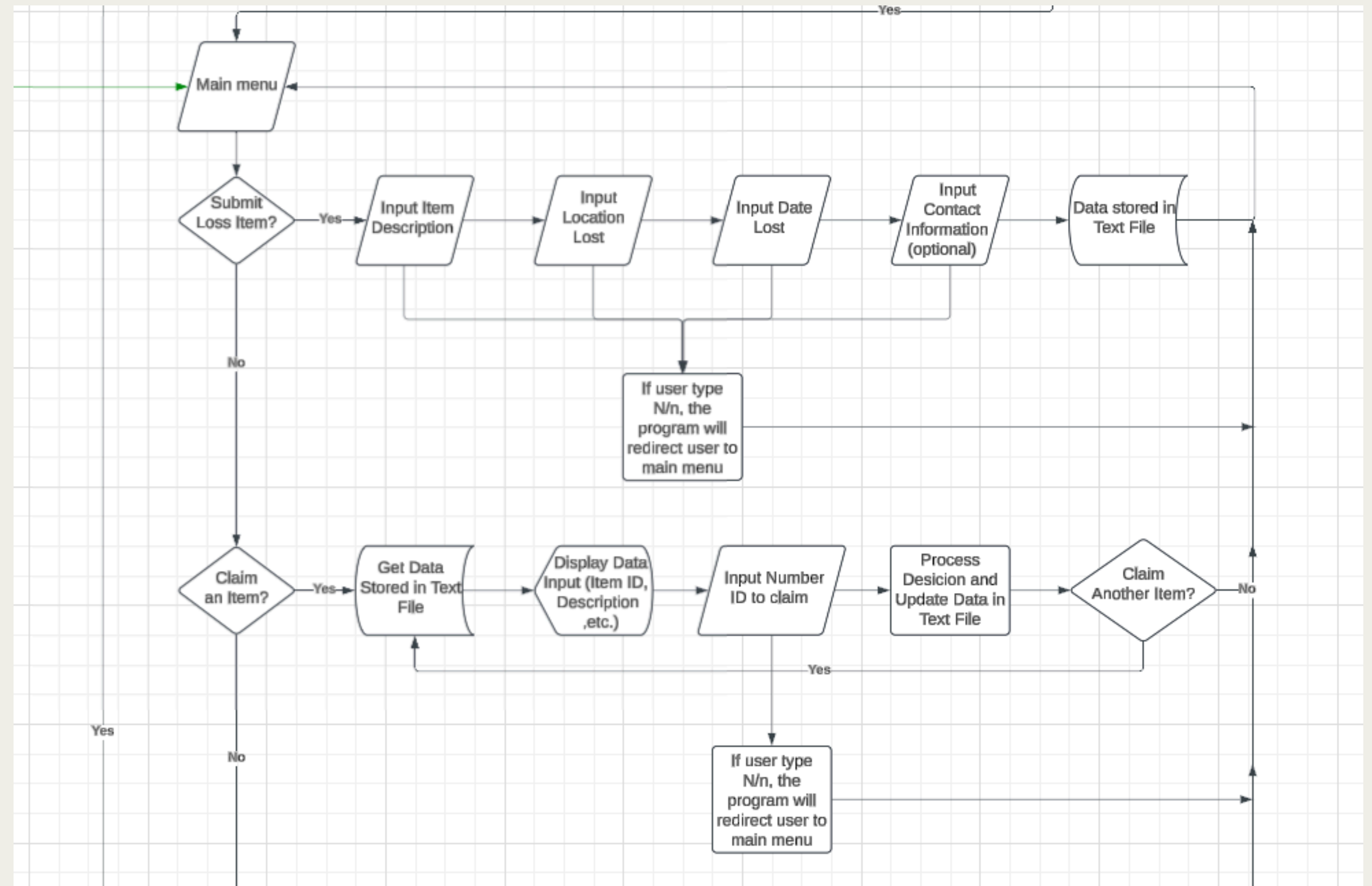
# 5. PROCEDURE

## Flowchart (Login System)



# 5. PROCEDURE

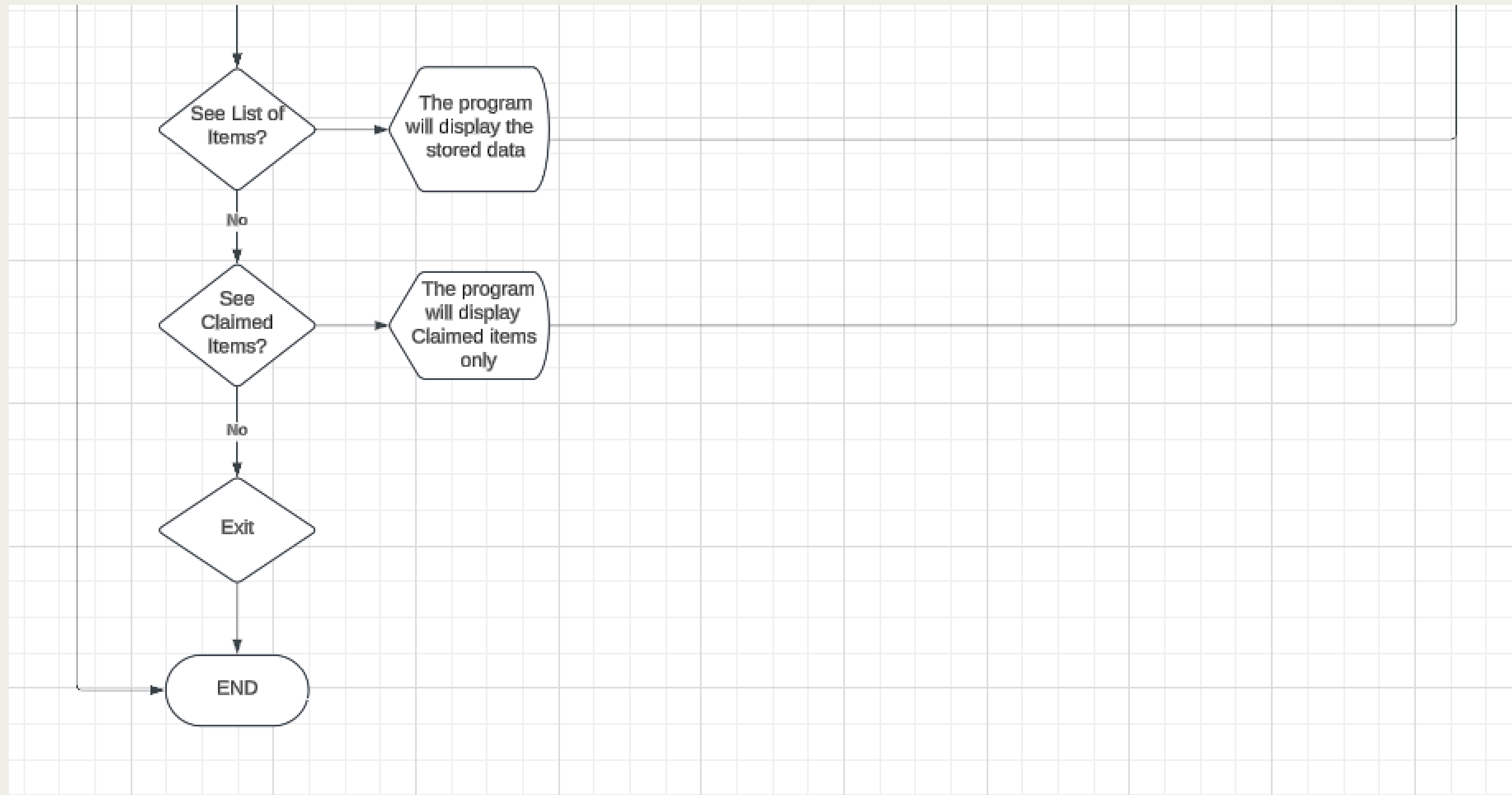
- Flowchart (Main Menu)



# 5. PROCEDURE

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- Flowchart (Main Menu)



## 7. CONCLUSION

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- The Lost and Found Management System implemented using linked lists in C++ provides an efficient and user-friendly approach to managing lost and found items, specifically tailored to the needs of the Technological Institute of the Philippines (TIP). By leveraging linked lists for data management, the system ensures seamless operations such as submitting lost items, searching for found items, and claiming belongings. This initiative successfully addresses the challenges of manual item tracking, offering convenience for students, instructors, and administrators.
- The system's design emphasizes simplicity and effectiveness, with clear functionalities accessible through a terminal interface. It fosters better organization within the campus, reducing the hassle associated with lost items while maintaining records securely through file handling techniques. Furthermore, the study underscores the importance of integrating data structures like linked lists into practical applications, enhancing the understanding and application of core programming concepts.

## 8. RECOMMENDATIONS

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### Automated Notifications:

- Introduce an automated notification system to alert users about updates regarding their lost or found items.

### Search Optimization:

- Incorporate filters like date lost, location, and item category to narrow down search results.
- Use algorithms that account for typos or partial matches when searching for items.

### Feedback Mechanism

- Integrate a feature for users to provide feedback on the system, suggesting improvements and reporting issues.
- Automated Affidavit Submission: Integrate a feature where users can fill out and submit an Affidavit of Loss through the system to expedite the claiming process. This would require users to submit an online form that automatically generates a standard Affidavit of Loss with fields for item details and personal information.

### Administrator System:

- Admins can review submitted lost items and approve or reject them based on criteria such as item description or proof of ownership.
- Admins can verify claimed items against user-submitted information (e.g., the Affidavit of Loss) to ensure the rightful claimant is receiving their item.

**We are Group 6**

**Thank you!**

**God Bless us all**