A project report

on

COVID Administration System

Submitted in partial fulfillment of the requirement of

Project – I (BIT106CO)

of

Bachelor of Information Technology

Submitted To

Purbanchal University

Biratnagar, Nepal

Submitted By

Archana Khadka(313318)

Ashok Basnet(313322)

Sachin Gautam(313345)

KANTIPUR CITY COLLEGE

Putalisadak, Kathmandu

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Project Supervisor

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Lecturer

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Topic of Approval

It is here by informed that the topic selected by Sachin Gautam, Ashok Basnet, Archana Khadka of BIT first semester project has been found suitable and as per the credit assigned by Purbanchal University (PU), Biratnagar, Nepal. The Project Committee has approved the following topic and supervisor for the mentioned students. This project has been completed for the prescribed period and the project embodied the result of their investigation conducted during they worked as full-time student of this institution.

Topic Approved: COVID Administration System

Mr. Saroj Pandey	Er. Prakash Gautam
Deputy HOD, Department of Information Technology	Project Supervisor
Kantipur City College	Kantipur City College

Certificate from Supervisor

This is to certify that the project titled "COVID Administration System" submitted by Sachin Gautam, Ashok Basnet, Archana Khadka to the Department of Information Technology, School of Science and Technology at Kantipur City College, Kathmandu, Nepal towards the requirement for Project- I (BIT06CO) is an original work carried out by them under my supervision and guidance.

_____

Er. Prakash Gautam
Department of Information Technology
Kantipur City College
(Project Supervisor)

ACKNOWLEDGEMENT

We would also like to express our deepest admiration to our lecturer, Mr. Bikash Neupane sir for giving us the opportunity to do this project.

We would like to express our sincere gratitude towards our supervisor Mr. Prakash Gautam for supervising, motivating and providing us proper guidance and support during the design of this project. We are really thankful to him for his constructive criticisms and suggestions, which helped us a lot during the onset of this project “COVID AS”. We would also like to thank all the other teachers and staff members who directly or indirectly helped us in the completion of this project.

Abstract

"COVID AS" is particularly made for the current COVID-19 pandemic situation which can be used in hospitals and health care centers and is user-friendly, simple, fast and effective. The main motto of this project is to make it efficient for health institutes to admit patients and to keep track of essential information. The details about the number of available beds, patients along with availability of doctors are stored in a file for future use. A login system has also been implemented for security reasons, so as to deny access to everyone except the authorized personnel to check, modify and edit the data.

List of figures

Figure Number	Figure	Page No.
1.	Flowchart	22-33
2.	Output screen of the program	43-48

List of tables

Table Number	Table	Page No.
1.	Assignment of roles and responsibilities.	3
2.	Documentation organization.	4
3.	Requirement gathering process	6
4.	Functional analysis	8-11
5.	Test plan	34-39
6.	Implementation and result	40

Table of contents

Acknowledgement ..... **i**

Abstract ..... **ii**

List of figures ..... **iii**

List of tables ..... **iv**

1. Introduction **1**

1.1 Project Introduction 1

1.2 Problem Statement 1

1.3 Objective of the Project 2

1.4 Significance of the Project 2

1.5 Project Features 3

1.6 Assignment of roles and responsibilities 3

1.7 Documentation organization 4

2. System Analysis **6**

2.1 Requirement gathering process 6

2.2 Feasibility study (Technical) 7

2.3 Gantt chart 7

3. System Design **8**

3.1 Functional Analysis 8

3.2 Algorithm 12

3.3 Flowchart 22

4. System Development and Implementation **34**

4.1 Programming Platform 34

4.2 Test Plan 34

4.3 Implementation and Result Analysis 40

5. Conclusion and Future Enhancements 41
4.1 Conclusion.....41
4.2 Limitations 41
4.3 Future Enhancements 41
References.....42
Appendices.....43
Appendix-1 (Output screen of program).....43

1. Introduction

1.1 Project Introduction

"COVID AS" is a project made with Hospitals in mind, designed to help manage the information regarding patients amongst the recent COVID-19 pandemic. The information about the patients and beds are stored in a file. This program has a login system for security concerns as well to determine the data access level for various users using the program. The bed reservation system makes it easier and more efficient to check for available beds in various wards with the use of graphical representation presenting the disparity between available and reserved beds. The main objective of this project is to make a management system which manages the data related to current pandemic situation for hospitals like the details of patients admitted, the number of available beds and names of available doctors.

1.2 Problem statement

The current pandemic situation is getting progressively chaotic by the day. Health related institutions are having a hard time managing the current situation since the number of the infected patients keeps on increasing on an exponential rate. This project “COVID AS” provides a simple environment to record the detailed information of COIVD infected patients being admitted in the hospitals. This way it is more efficient than using hand written records which can increase the chance of data repetition and can cause inconvenience in managing the information.

The system has been designed to be user friendly. The group members have made every effort so that managing the information of patients is easier and

efficient. We believe that this project can somewhat help in reducing the problems caused in storing the information exclusive to the current pandemic situation. Ultimately, this project may be able to aid health related institutions to help reduce the number of patients during the ongoing pandemic we are facing.

1.3 Objectives of the project:

The objectives of our project are enlisted below:

- To store the information related to COVID infected patients and various isolation wards in hospitals.
- To make it easier to analyze the data related to COIVD infected patients.

1.4 Significance of the project:

The significance of the project are enlisted below:

- Makes it more convenient to store data related to patients.
- Processing newly entered data and existing data becomes easier for hospital personnel
- Doctors can view data related to patients and can analyze it to study the trend of increase in cases in their hospital.
- Patient's records can be easily searched in a matter of seconds to change or find any information regarding them.
- The various records related to the beds and the patients can be easily displayed with a simple user interface.

1.3 Features of the project:

The key features of this project are as given below:

- It has a secure login system which only allows authorized users to access the various features of the program.
- New patient's record can be added easily.
- New doctor and managing staff accounts can be made easily with admin privilege.
- It saves information related to the patients like, their date of admission, vaccination status (if any), ward, contact details etc.
- Existing information related to the patients can be easily updated or modified.
- Viewing and searching the information regarding the patients can be done easily.
- All the information including the user accounts are stored in a file so it is secure and there will be no risk of loss of data.

1.4 Assignment of roles and responsibilities:

Member's name	**Task Performed**
Archana Khadka	Requirement gathering, Design, Coding, Documentation
Ashok Basnet	Requirement gathering, Design, Coding, Documentation

Sachin Gautam (Group leader)	Requirement gathering, Design, Coding, Documentation

1.7 Document Organization:

This document consists of five chapters and these chapters each have their own sub-chapters.

Chapter 1	Chapter 1 : Introduction This chapter is about a brief introduction to the project and its consists of other five chapters and they are as follow: 1.1 Project Introduction 1.2 Problem Statement 1.3 Objectives of the project 1.4 Significance of the project 1.5 Project Features 1.6 Assignment of roles and responsibilities 1.7 Document Organization
	Chapter 2 : System Analysis This chapter is about system analysis and it is further divided into other three sub-chapter and they are:

Chapter 2	2.1 Requirement gathering process 2.2 Feasibility study 2.3 Gantt chart
Chapter 3	Chapter 3 : System design This chapter is about system analysis of the project and it is divided into four sub-chapter and they are: 3.1 Requirement analysis 3.2 Feasibility study 3.3 Gantt chart
Chapter 4	Chapter 4: System development and Implementation This chapter is about System development and implementation of the project and it is divided into three sub-chapter and they are: 4.1 Programming platform 4.2 Test plan 4.3 Implementation and result analysis
Chapter 5	Chapter 5 : Conclusion and Future Enhancement This chapter is about conclusion and future enhancement of the project and it is divided into three sub-chapter and they are: 5.1. Conclusion

	5.2. Limitation 5.3.Future Enhancement

2. System Analysis

2.1 Requirement gathering process:

Requirement No.	Requirement Name	Requirement description	Function number
1	Username and password	To secure the information by giving access to only authorized members	
2	Patient details (Name, age, sex, patient number, address, contact number, pervious vaccination status, bed and ward number, date of admission)	To record the details of infected patients being admitted in an existing file or create a new one. This is the sole purpose of our program i.e. to record and manage the information regarding patients.	
3	Staff details (Name, designation, address,contact, Year joined)	To keep track of information regarding the staffs using the software (doctors and managing staffs) and to know the names of staffs available.	

2.2 Feasibility study (Technical):

Various hardware and software aspects were taken into consideration during the development of this project. It was made sure that the software used was feasible for all the members involved in the project. For this program a computer with Turbo C installed on it is required. The software used here is a free to use software and can be installed easily on any system. A computer system meeting these requirements can easily run the program. This particular Compiler and IDE was chose due to its easy learning nature and in order to make use of "graphics.h" header file which is not possible in the Dev Complier which we had initially planned to use.

2.3 Gantt Chart:

S.N	Tasks	2021 May				2021 June				2021 July				2021 August				2021 Sep				2021 Oct				2021 Nov				2021 Dec			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Concept submission																																
2	Requirement gathering																																
3	Research and analysis																																
4	System design																																
5	Coding																																
6	Debugging and testing																																
7	Documentation																																

Index:

Task completed	
Task remaining	

3. System Design

3.1 Functional analysis

Function No.	Function name	Function Description
1	choice_page1()	This function is for user interface of main menu.
2	choice_page2()	This function is for user interface of doctors.
3	choice_page3()	This function is for user interface of managing staff.
4	choice_page4()	This function is for user interface of admin.
5	login_input()	This function is for login purpose, it takes the username and password from the user and passes it to the login_chk() function.
6	login_chk(char[], char[])	This function checks the username and password to see if it is valid and if it marches with any username or password saved in the file.
7	project_info()	This function displays a project information page.
8	logo()	This function displays a logo of our project in our project information page.

9	view_precord()	This function is used to display the records of the patients to the doctors.
10	view_brecord()	This function displays the beds reserved and occupied in the ward.
11	p_entry()	This function is used to save the various information related to the patients in a file
12	b_entry()	This function is used to reserve the beds.
13	p_edit()	This function is used to edit or update the information related to the patients stored in the file
14	b_edit()	This function is used to edit the information related to bed i.e. mark it as open after the patient discharges
15	p_delete()	This function is used to delete the record of a patient after he/she gets discharged.
16	n_staff()	This function is used to add new staff either doctor or a managing staff through admin privilege.
17	c_unamepass()	This function is used to change the password and username.
18	hold()	This function is used to hold the screen for the amount of time we want by making use of the inbuilt sleep() function.
19	add_staff()	This function is used to add the staff details of new staffs.

20	beds()	This function prints the layout of the beds.
21	b_display()	This function shows the occupied and unoccupied beds in the wards.
22	change_unamepass()	This function displays the username change menu.
23	fill()	This function fills the color of the beds according to its state.
24	id_chk()	This function is used to check whether the patient ID being input is unique or not.
25	login_change_input()	This function is used to take the input for the new credentials of the default user login credentials.
26	login_change_admin()	This function is used to change the default password and username for the admin stored in the file.
27	login_change_doctor()	This function is used to change the default password and username for the doctors stored in the file.
28	login_change_mstaff()	This function is used to change the default password and username for the managing staffs stored in the file.
29	numbers()	This function prints the numbering of the beds in the wards.
30	project_name()	This function is used to print the name of the project.
31	search_agegroup()	This function is used to search the records within a specific age group.
32	stat_page()	This function displays the menu for the statistic search page.

33	view_agegroup()	This function is used to view the records of the searched specific age group.
34	view_staff()	This function is used to display the information of the staffs stored in the file.
34	view_unvacrecord()	This function is used to display the information of the patients that were not previously vaccinated.
35	view_vacrecord()	This function is used to display the information of the patients that were previously vaccinated.

3.2 Algorithm

Step 1: Start

Step 2: Display the main menu

Step 3: Make a choice and If the choice is either 1 or 2 or 0, goto step 4

Otherwise

Step 3.1: Display “Invalid Input”

Step 3.2: goto step 2

Step 4: If the choice is 1

Step 4.1: Display login page

Step 4.1: Input the username and password

Step 4.2: If username and password are entered

Step 4.2.1: If length of username and password equal to zero

Display “No username and password entered”

Display “Press enter to try again”

Display “Press backspace to go back one page”

If input is enter, goto step 4.1

Otherwise, if input is backspace

goto step 2

Otherwise

Display “Wrong Input!”

goto step 4.1

Step 4.2.2: If only length of username is equal to zero

Display “No username entered”

Display “Press enter to try again”

Display “Press backspace to go back one page”

If input is enter, goto step 4.1

Otherwise, if input is backspace

goto step 2

Otherwise

Display “Wrong Input!”

goto step 4.1

Step 4.2.3: If only length of password is equal to zero

Display “No password entered”

Display “Press enter to try again”

Display “Press backspace to go back one page”

If input is enter, goto step 4.1

Otherwise, if input is backspace

goto step 2

Otherwise

Display “Wrong Input!”

goto step 4.1

Otherwise

goto step 4.3

Step 4.3: Check the username and password with the one saved in file

Step 4.4: If the username and password matches with doctor account

Step 4.4.1: Display “Login Success”

Step 4.4.2: goto step 4.5

Otherwise, if the username and password matches with managing staff account ,

Step 4.4.3: Display “Login Success”

Step 4.4.4: goto step 4.11

Otherwise

if the username and password matches with admin account,

Step 4.4.5: Display “Login Success”

goto step 4.19

Otherwise

Display “Login Failed”

goto step 4.1

Step 4.5: Display doctor choice page

Step 4.6: Make a choice

Step 4.7: If choice is 1, 2, 3 or 0, goto step 4.8

Otherwise

Display “Invalid Input”

goto step 4.5

Step 4.8: If choice is 1

Step 4.8.1: Open the file containing patient records

Step 4.8.2: Display the patient records

Step 4.8.3: Ask the user is they want to exit

Step 4.8.4: If yes, goto step 4.5

Otherwise

goto step 4.8.1

Step 4.9: If the choice is 2

Step 4.9.1: Open the file containing records of beds

Step 4.9.2: Display the beds in the ward

Step 4.9.3: Ask the user is they want to exit

Step 4.9.4: If yes, goto step 4.5

Otherwise

goto step 4.9.1

Step 4.10: If the choice is 3

Step 4.10.1: Display the statistic search choice page

Step 4.10.2: Make a choice

Step 4.10.3: If choice is 1, 2, 3 or 0, goto step 4.10.4

Otherwise

Display “Invalid Choice”

goto step 4.5

Step 4.10.4: If the choice is 1

Step 4.10.4.1: Display search by age

Step 4.10.4.2: Input lower and upper age range

Step 4.10.4.3: Search the patient record file

Step 4.10.4.4: Display the records

Step 4.10.4.5: Ask the user is they want to exit

Step 4.10.4.6: If yes, goto step 4.5

Otherwise

goto step 4.10.4.1

Step 4.10.5: If the choice is 2

Display vaccinated patient

Goto step 4.10.6

Step 4.10.6: If the choice is 3

Display unvaccinated patients

Goto step 4.10.7

Step 4.10.7: If the choice is 0, goto step 2

Step 4.11: Display managing staff choice page

Step 4.12: Make a choice

Step 4.13: If choice is 1, 2, 3, 4 or 0, goto step 4.14

Otherwise

Display “Invalid Input”

goto step 4.11

Step 4.14: If the choice is 1

Step 4.14.1: Display new patient record entry page

Step 4.14.2: Open the file to store data

Step 4.14.3: If file exits, goto step 4.14.4

Otherwise

Create the file

goto step 4.14.4

Step 4.14.4: Input various information

Step 4.14.5: Save the information in a file

Step 4.14.6: Ask the user if they want to store more data

Step 4.14.7: If yes, goto step 4.14.1

Otherwise

goto step 4.11

Step 4.15: If the choice is 2

Step 4.15.1: Display patient record edit page

Step 4.15.2: Open the file with patient data

Step 4.15.3: If file exits, goto step 4.15.4

Otherwise

Display “File not found”

goto step 4.11

Step 4.15.4: Search the patient record with respect to name

Step 4.15.5: If record exists, goto step 4.15.6

Otherwise

Display “Record not found”

goto step 4.15.1

Step 4.15.6: Input the updated data

Step 4.15.7: Store the updated data in the file

Step 4.15.8: Display “Record edited successfully”

Step 4.15.9: Ask the user if they want to edit another record

Step 4.15.10: If yes, goto step step 4.15.1

Otherwise

goto step 4.11

Step 4.16: If the choice is 3

Step 4.16.1: Display ward and bed information edit page

Step 4.16.2: Open the file with bed information

Step 4.16.3: If file exists, goto step 4.16.4

Otherwise

Display “File not found”

goto step 4.11

Step 4.16.4: Enter the bed number

Step 4.16.5: If the bed exists, goto step 4.16.6

Otherwise

Display “Bed does not exist”

goto step 4.16.1

Step 4.16.6: Ask the user to mark the bed as reserved or open

Step 4.16.7: If the choice is to reserve

Mark the bed as reserved

Save the information in the file

Update the graphical representation

Otherwise, if the choice is to free a bed

Mark the bed as open

Save the information in the file

Update the graphical representation

Step 4.16.8: Ask the user if they want to continue

Step 4.16.9: If yes, goto step 4.16.1

Otherwise

goto step 4.11

Step 4.17: If choice is 4

Step 4.17.1: Display the patient record delete page

Step 4.17.2: Open the file with patient data

Step 4.17.3: If file exists, goto step 4.17.4

Otherwise

Display “File not found”

goto step 4.11

Step 4.17.4: Search the patient record with respect to name

Step 4.17.5: If record exists, goto step 4.17.6

Otherwise

Display “Record not found”

goto step 4.17.1

Step 4.17.6: Delete the record

Step 4.17.7: Store the updated data in the file

Step 4.17.8: Display “Record deleted successfully”

Step 4.17.9: Ask the user if they want to delete another record

Step 4.17.10: If yes, goto step 4.17.1

Otherwise

goto step 4.11

Step 4.18: If the choice is 0, goto step 2

Step 4.19: Display admin choice page

Step 4.20: Make a choice

Step 4.21: If choice is 1, 2, 3 or 0 goto step 4.22

Otherwise

Display “Invalid Input”

goto step 4.19

Step 4.22: If choice is 1

Step 4.22.1: Display the staff adding page

Step 4.22.2: Open the file containing staff details

Step 4.22.3: If file exists, goto step 4.22.4

Otherwise

Create file

goto step 4.22.4

Step 4.22.4: Input the information of new staff

Step 4.22.5: Check if the information matches with any existing data

Step 4.22.6: If similar data exists

Display “Record already exists”

goto step 4.22.1

Otherwise, goto step 4.22.7

Step 4.22.7: Store the new staff record in the file

Step 4.22.8: Ask the user if they want to add more staff

Step 4.22.9: If yes, goto step 4.22.1

Otherwise

goto step 4.19

Step 4.23: If choice is 2

Step 4.23.1: Display staff viewing page

Step 4.23.2: Open the file containing staff details

Step 4.23.3: If file exists, goto step 4.23.4

Step 4.23.4: Display the file

Otherwise

Display “File not found”

goto step 4.19

Step 4.24: If choice is 3

Step 4.24.1: Display Login Page Change

Step 4.24.2: Make a Choice

Step 4.24.3: If choice is 1, 2, 3 or 0 goto step 4.24.4

Otherwise

Display “Invalid Input”

goto step 4.24.1

Step 4.24.4: If choice is 1

Step 4.24.4.1: Display Doctor Login Page Change

Step 4.24.4.2: Open the file containing doctor login detail

Step 4.24.4.3: If file exists, goto step 4.24.4.4

Otherwise

Display “File not found”

goto step 4.24

Step 4.24.4.4: Input the new username and password for doctor

Step 4.24.4.5: Replace the default doctor login credentials

Step 4.24.4.6: Store the new credentials in the file

Step 4.24.4.7: Display “Password and username Changed successfully”

goto step 4.24

Step 4.24.5: If choice is 2

Step 4.24.5.1: Display Staff Login Page Change

Step 4.24.5.2: Open the file containing staff login detail

Step 4.24.5.3: If file exists, goto step 4.24.5.4

Otherwise

Display “File not found”

goto step 4.24

Step 4.24.5.4: Input the new username and password for staffs

Step 4.24.5.5: Replace the default staff login credentials

Step 4.24.5.6: Store the new credentials in the file

Step 4.24.5.7: Display “Password and username changed successfully”

goto step 4.2

Step 4.24.6: If choice is 3

Step 4.24.6.1: Display Admin Login Page Change

Step 4.24.6.2: Open the file containing admin login details

Step 4.24.6.3: If file exists, goto step 4.31.4

Otherwise

Display “File not found”

goto step 4.26

Step 4.24.6.4: Input the new username and password for admin

Step 4.24.6.5: Replace the default admin login credentials

Step 4.24.6.6: Store the new credentials in the file

Step 4.24.6.7: Display “Password and username Changed successfully”

goto step 4.24

Step 4.24.7: If choice is 0, goto step 19

Step 4.25: If choice is 0, goto step 2

Step 5: If the choice is 2

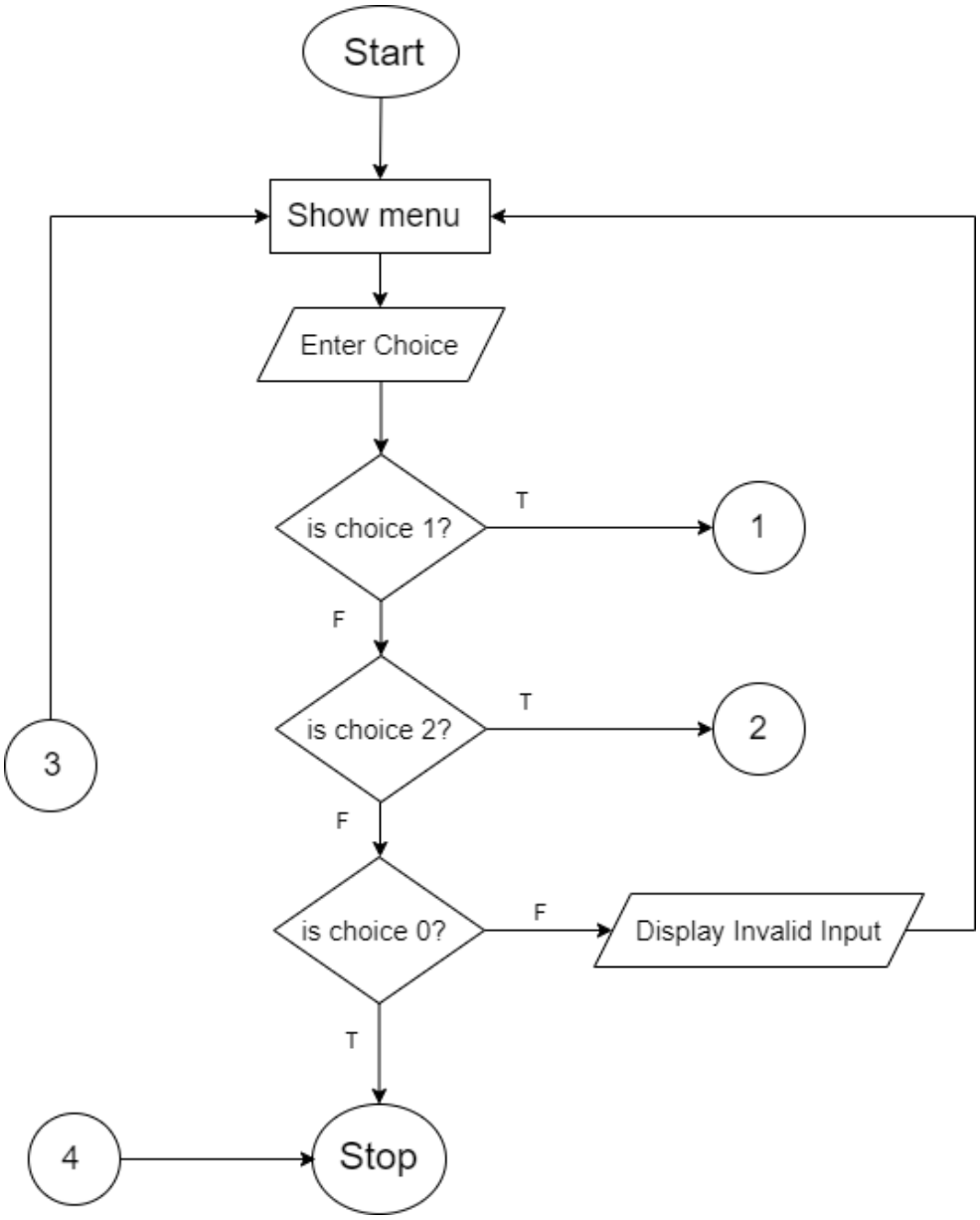
Step 5.1: Display the project information page

Step 5.2: If the user gives any keyboard input, goto step 2

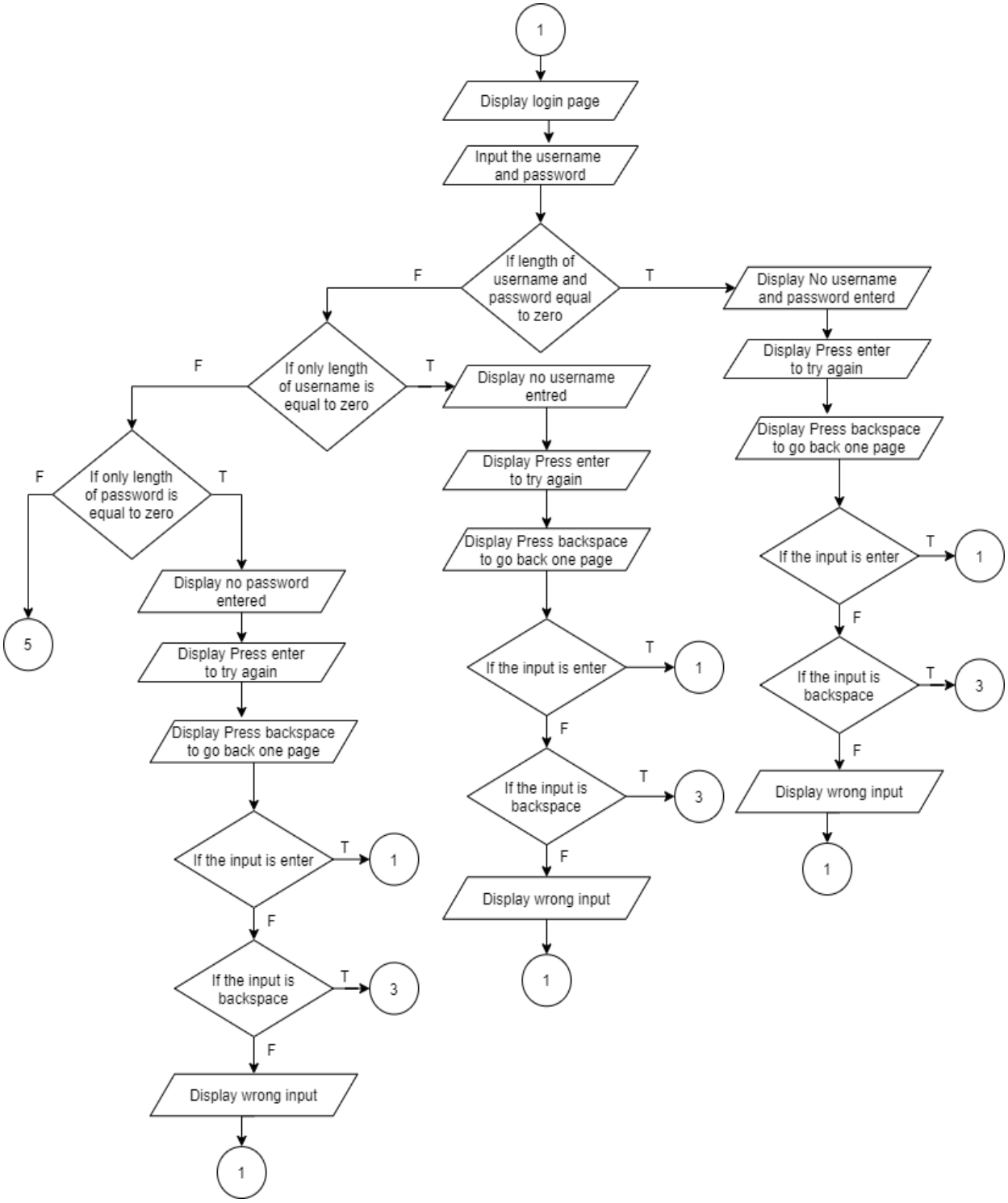
Step 6: If the choice is 0, goto step 7

Step 7: Stop

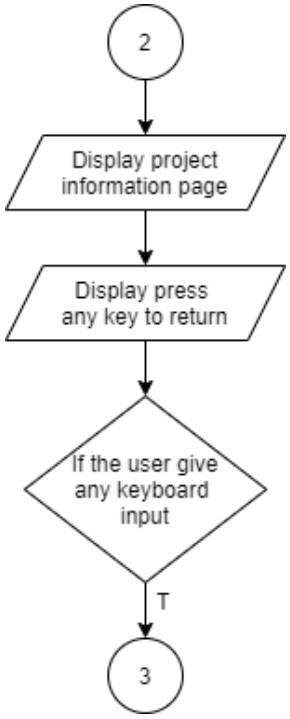
3.4 Flowchart



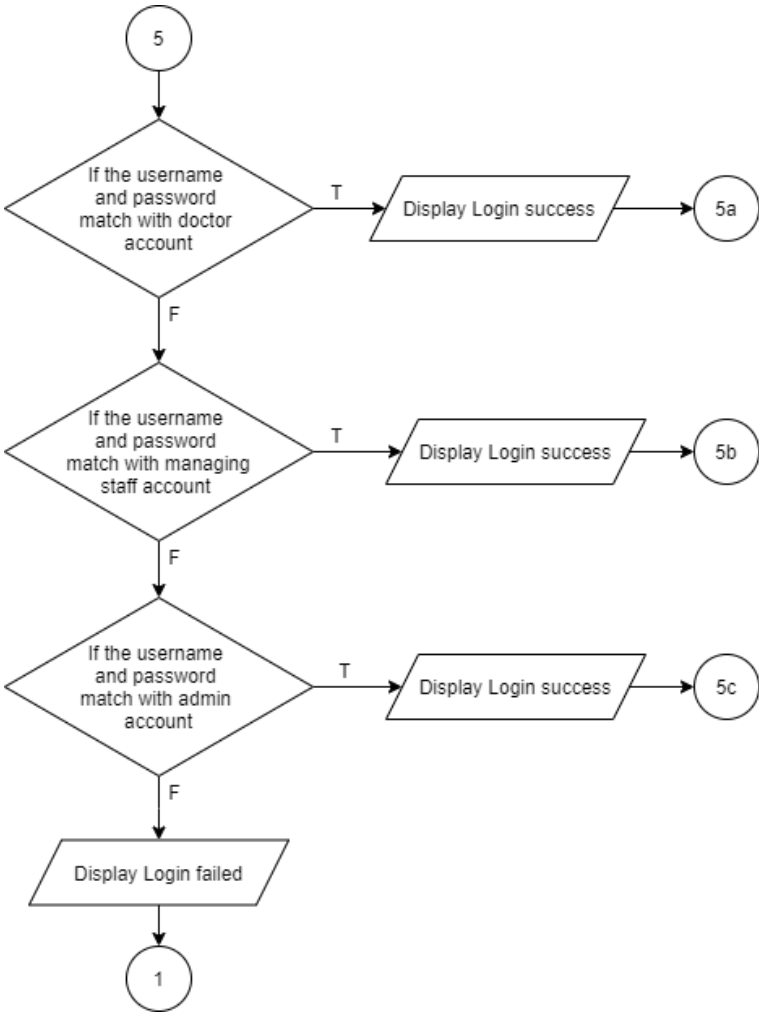
Login input

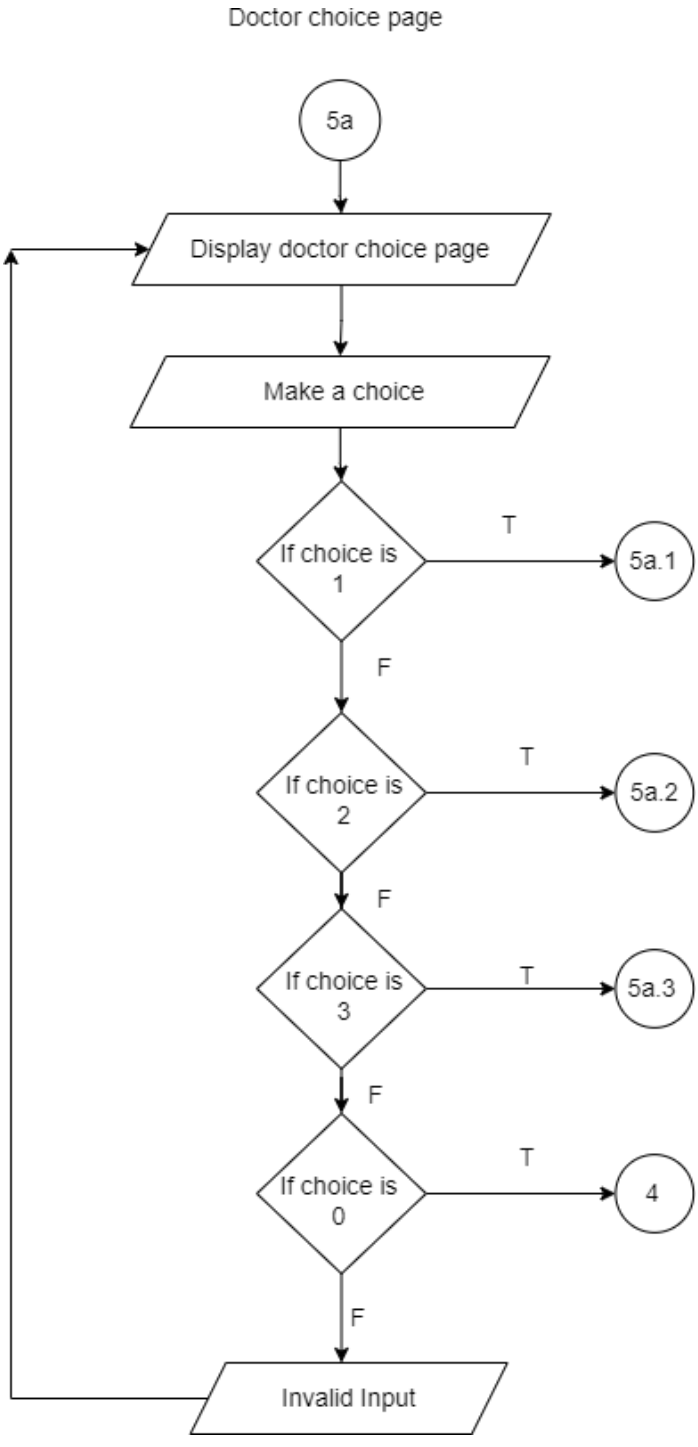

1
Display login page
Input the username and password
If length of username and password equal to zero
F
T
Display No username and password enterd
Display Press enter to try again
Display Press backspace to go back one page
If the input is enter
T
1
F
If the input is backspace
T
3
F
Display wrong input
1
If only length of username is equal to zero
F
T
Display no username entred
Display Press enter to try again
Display Press backspace to go back one page
If the input is enter
T
1
F
If the input is backspace
T
3
F
Display wrong input
1
If only length of password is equal to zero
F
T
5
Display no password entered
Display Press enter to try again
Display Press backspace to go back one page
If the input is enter
T
1
F
If the input is backspace
T
3
F
Display wrong input
1

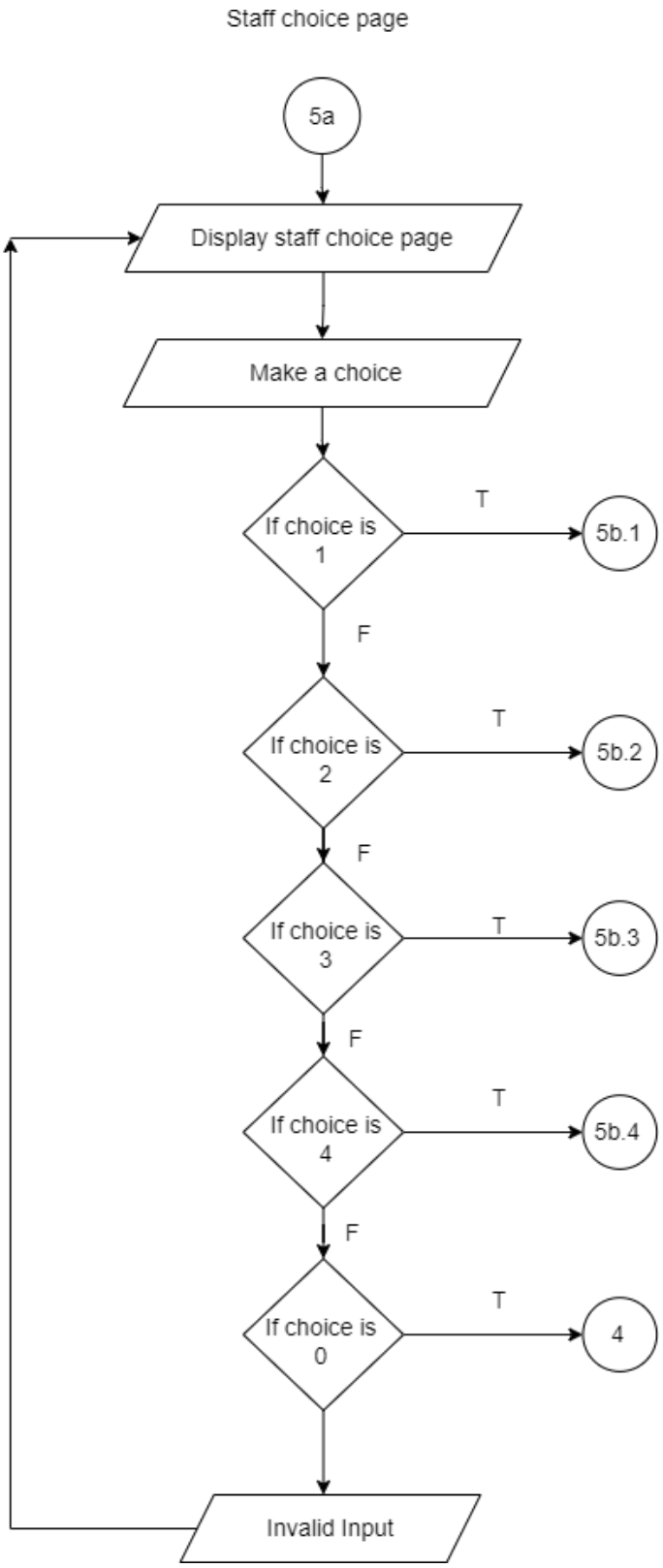
Project information



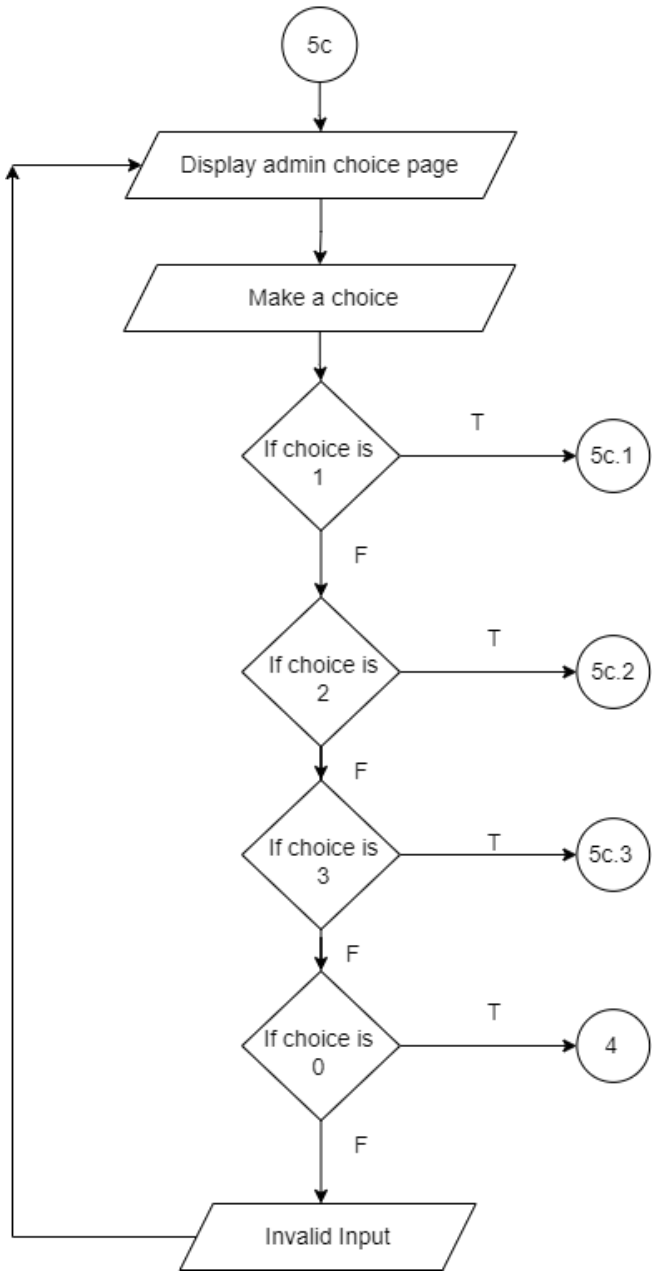
Login check



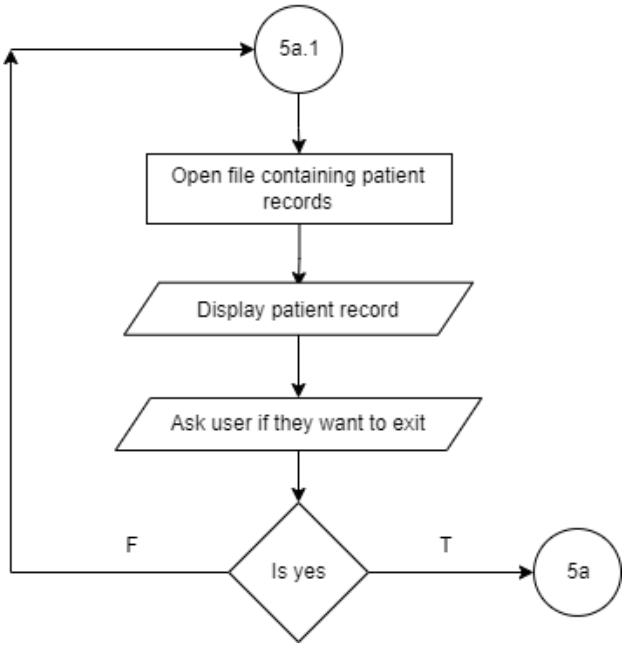

Doctor choice page
5a
Display doctor choice page
Make a choice
If choice is 1
T
5a.1
F
If choice is 2
T
5a.2
F
If choice is 3
T
5a.3
F
If choice is 0
T
4
F
Invalid Input


Staff choice page
5a
Display staff choice page
Make a choice
If choice is 1
T
5b.1
F
If choice is 2
T
5b.2
F
If choice is 3
T
5b.3
F
If choice is 4
T
5b.4
F
If choice is 0
T
4
Invalid Input

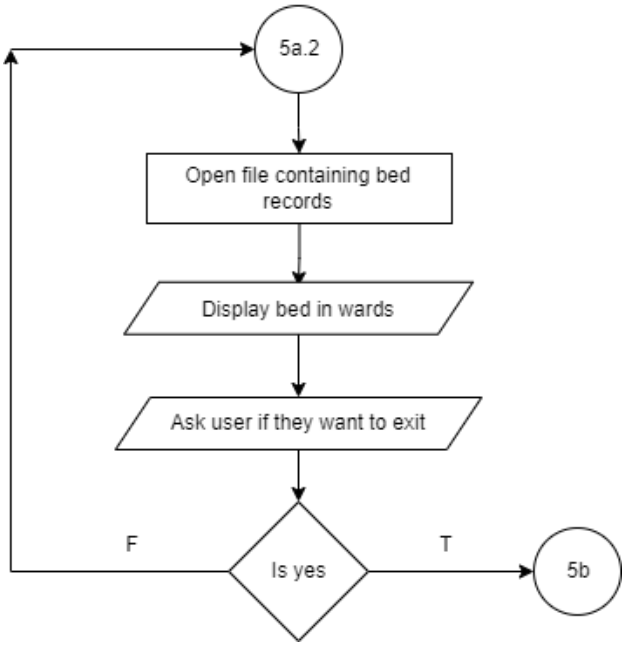
Admin choice page

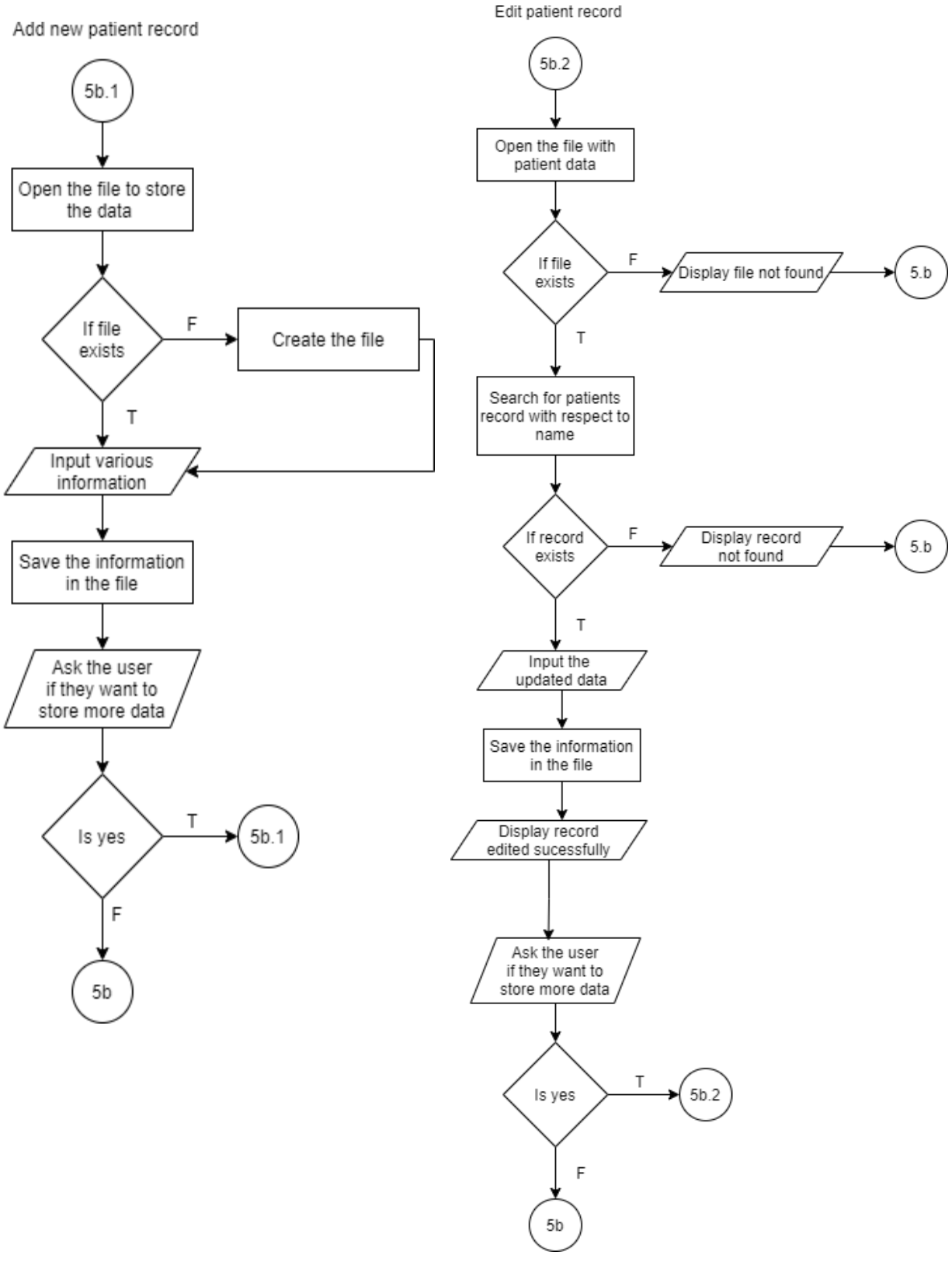


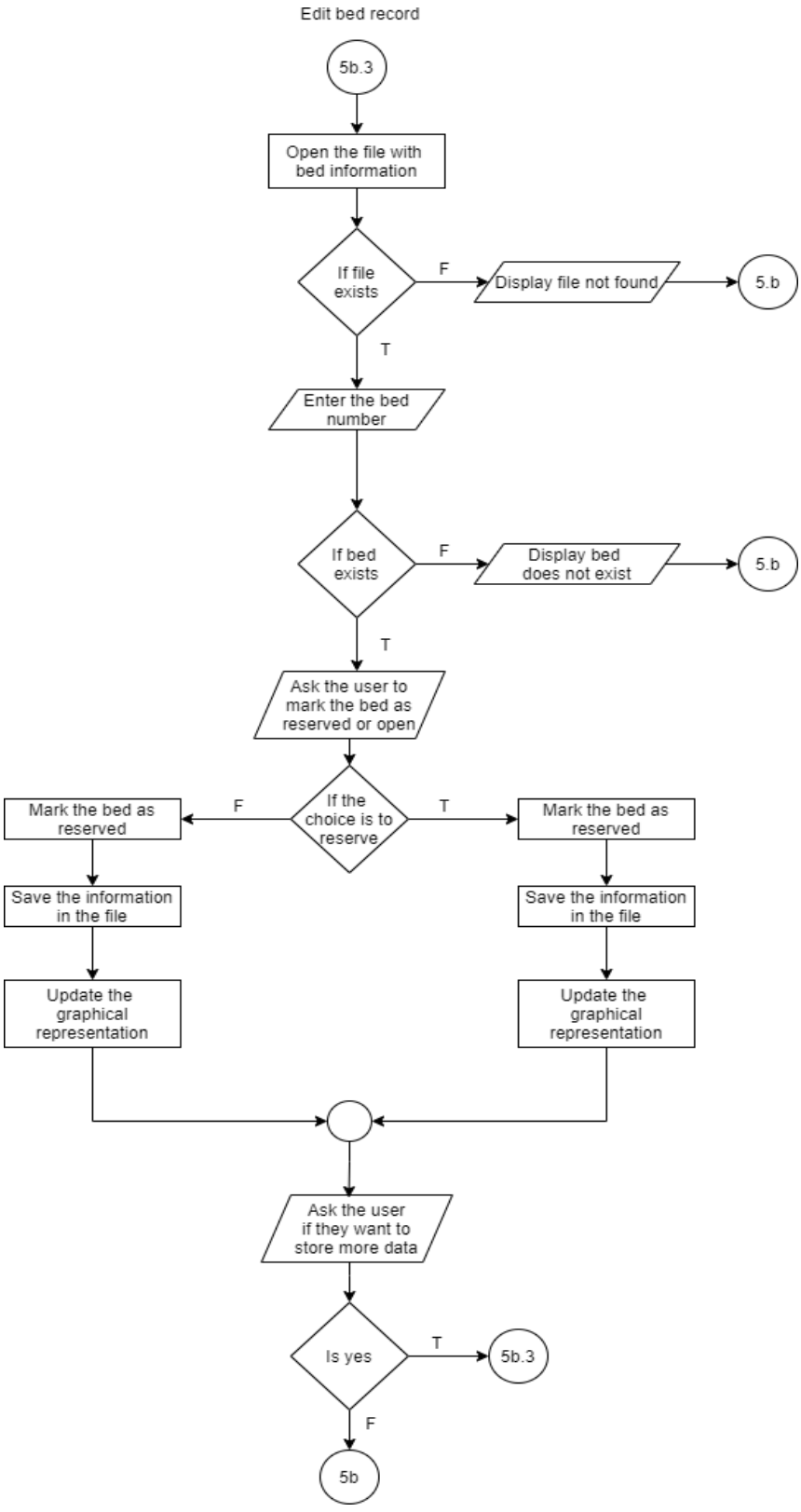
View Patient record

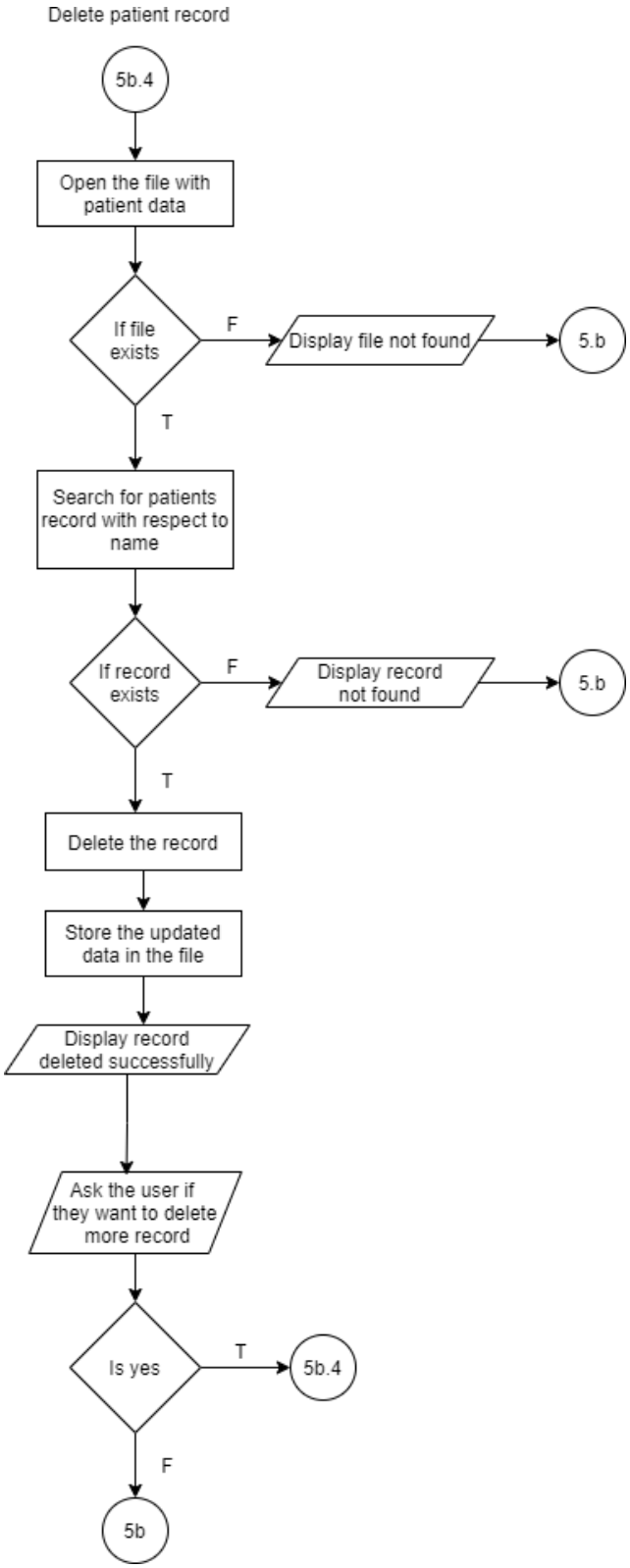


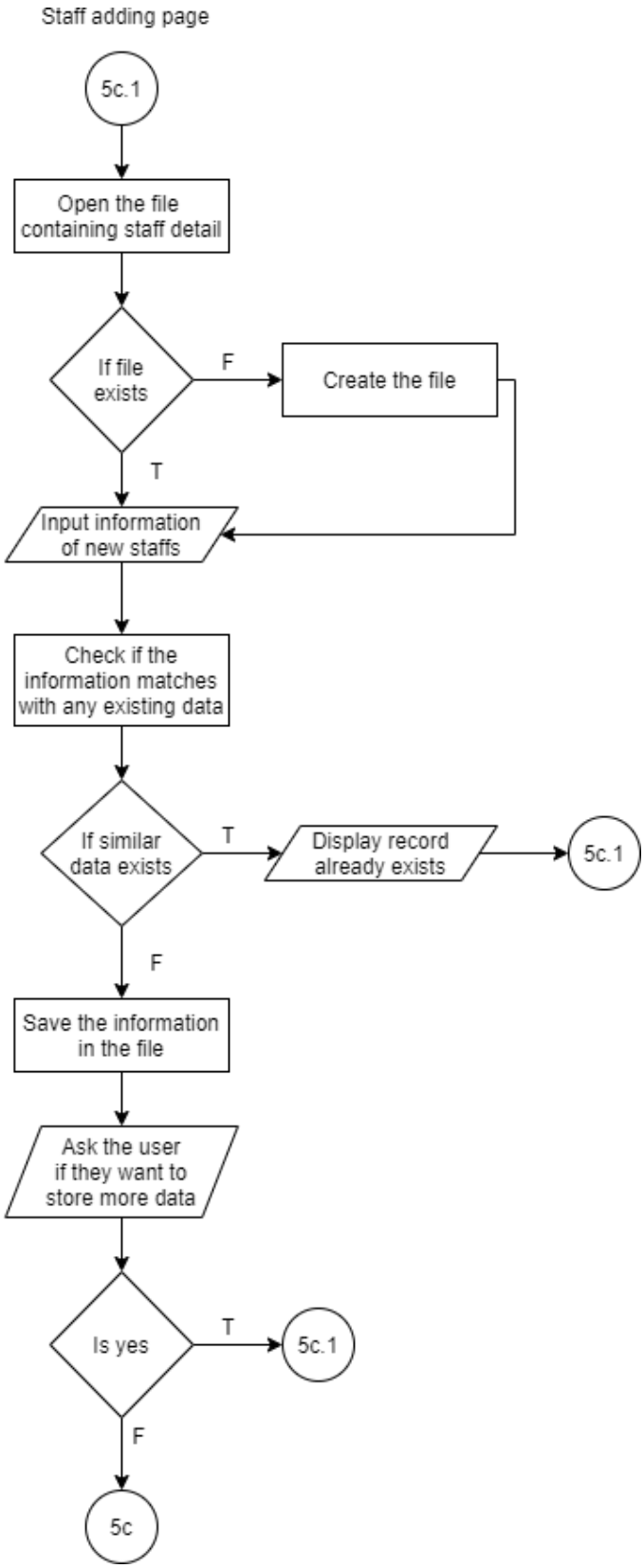
View bed record

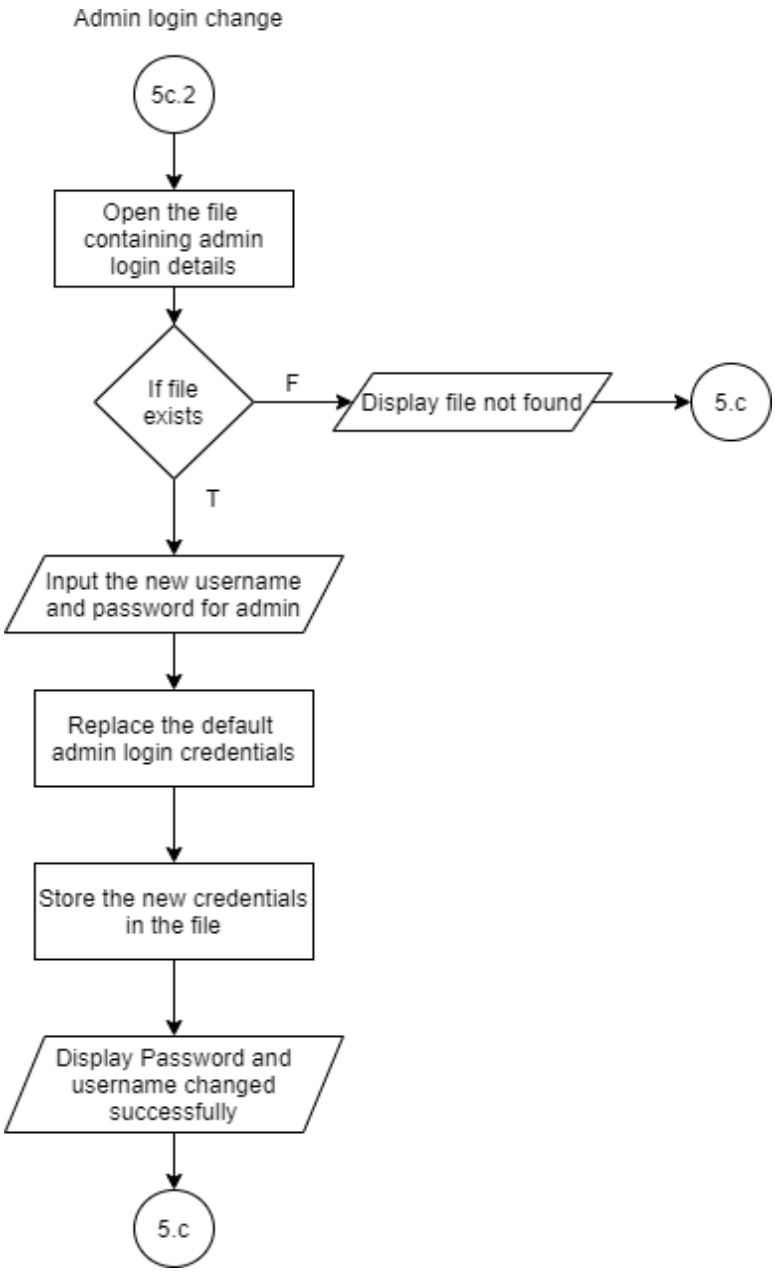



Add new patient record
5b.1
Open the file to store the data
If file exists
F
Create the file
T
Input various information
Save the information in the file
Ask the user if they want to store more data
Is yes
T
5b.1
F
5b
Edit patient record
5b.2
Open the file with patient data
If file exists
F
Display file not found
5.b
T
Search for patients record with respect to name
If record exists
F
Display record not found
5.b
T
Input the updated data
Save the information in the file
Display record edited sucessfully
Ask the user if they want to store more data
Is yes
T
5b.2
F
5b

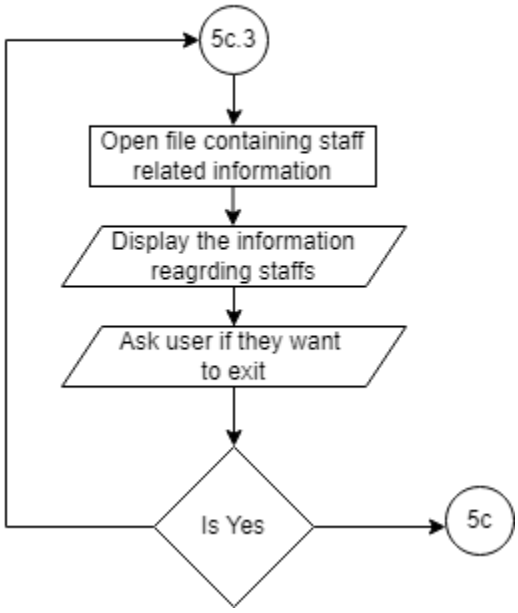

Edit bed record
5b.3
Open the file with bed information
If file exists
F
Display file not found
5.b
T
Enter the bed number
If bed exists
F
Display bed does not exist
5.b
T
Ask the user to mark the bed as reserved or open
If the choice is to reserve
F
T
Mark the bed as reserved
Save the information in the file
Update the graphical representation
Mark the bed as reserved
Save the information in the file
Update the graphical representation
Ask the user if they want to store more data
Is yes
T
5b.3
F
5b


Delete patient record
5b.4
Open the file with patient data
If file exists
F
Display file not found
5.b
T
Search for patients record with respect to name
If record exists
F
Display record not found
5.b
T
Delete the record
Store the updated data in the file
Display record deleted successfully
Ask the user if they want to delete more record
Is yes
T
5b.4
F
5b

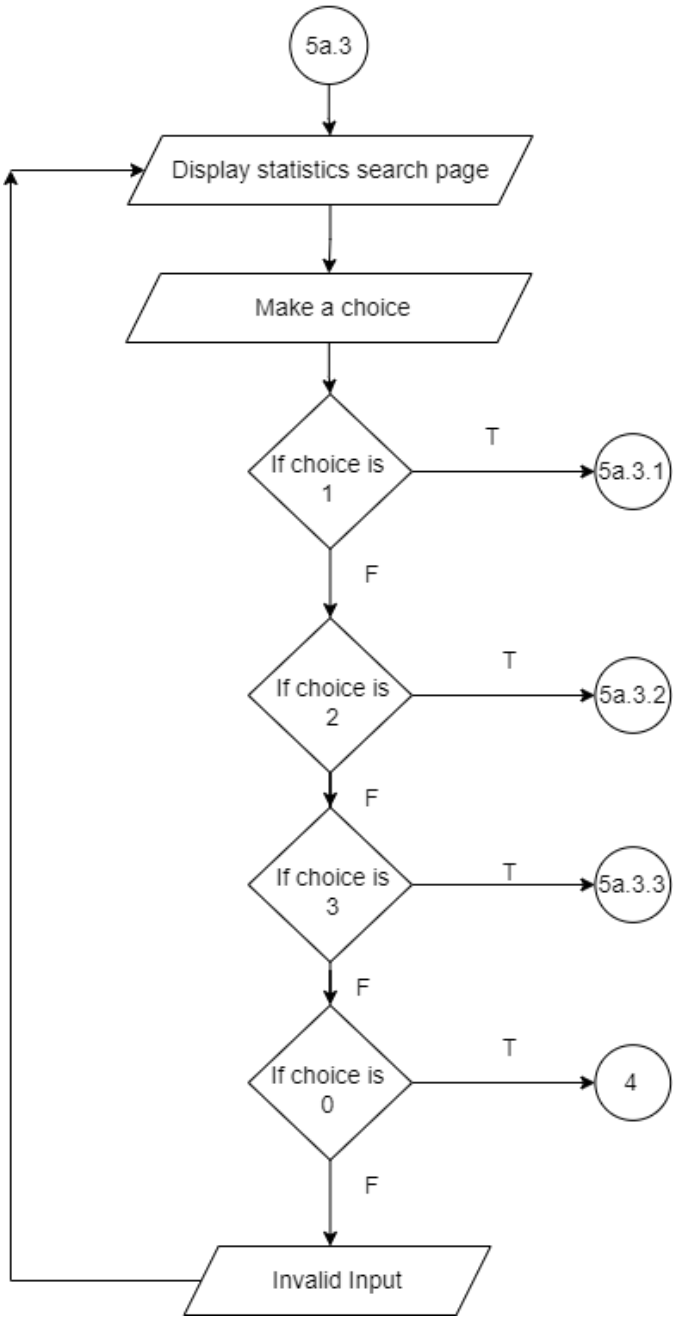

Staff adding page
5c.1
Open the file containing staff detail
If file exists
F
Create the file
T
Input information of new staffs
Check if the information matches with any existing data
If similar data exists
T
Display record already exists
5c.1
F
Save the information in the file
Ask the user if they want to store more data
Is yes
T
5c.1
F
5c


Admin login change
5c.2
Open the file containing admin login details
If file exists
F
Display file not found
5.c
T
Input the new username and password for admin
Replace the default admin login credentials
Store the new credentials in the file
Display Password and username changed successfully
5.c

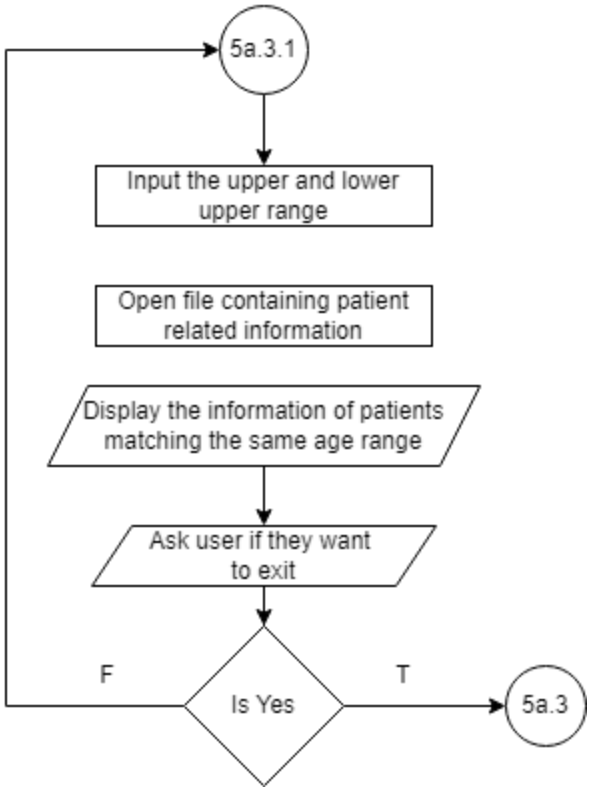
View staff list



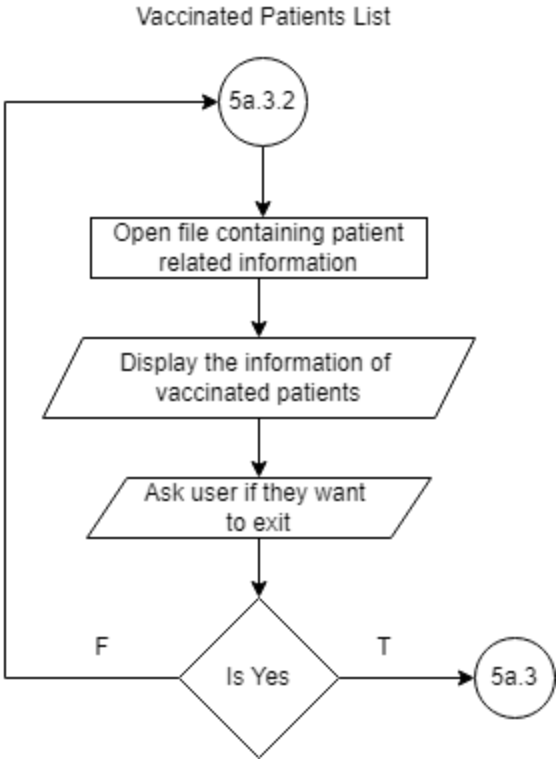
Statistics Search Page



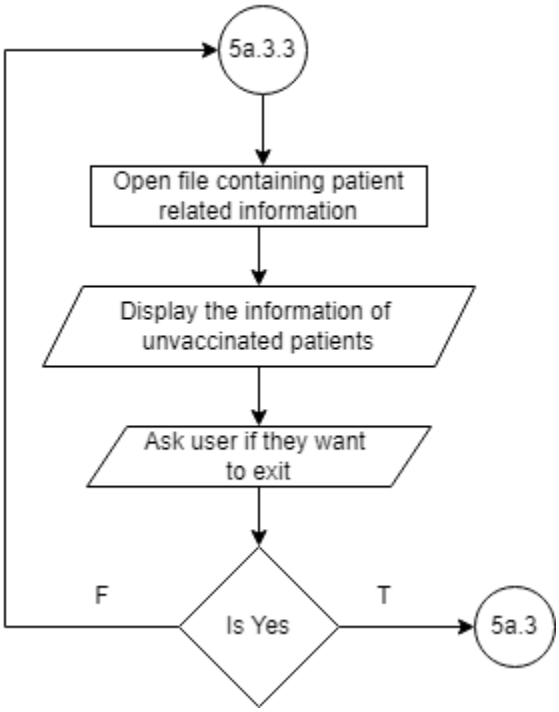
Age group search



Vaccinated Patients List



Unvaccinated Patients List



4. System Development and Implementation

4.1 Programming platform:

Turbo C++ has been used as the programming platform for this project.

4.2 Test plan

Test case	1
Test objective	To check the login system redirection.
Expected result	The program should be redirect to the respective staff page according to the username and password entered.
Test result	The program redirected to the admin page after entering the default admin password and username.
Conclusion	Expected result matches the test result.

Test case	2
Test objective	To check the login system
Expected result	In case of incorrect, missing and invalid password or username the program should display error message and go back to the main menu.
Test result	The program returned an error message when we tried: ● Incorrect password and username ● Incorrect password only ● Incorrect username only ● Missing username

	• Missing password • Missing username and password • Invalid username (exceeding the max username length) • Invalid password (exceeding the max password length and making use of invalid characters)
Conclusion	Expected result matches the test result.

Test case	3
Test objective	To check the project information page
Expected result	The program should be redirect to the project information page.
Test result	The program redirected to the project information page.
Conclusion	Expected result matches the test result.

Test case	4
Test objective	To check the doctor choice page
Expected result	The program should redirect the user to respective features the doctor can access by making a choice
Test result	The program redirected to the following pages after making the choices: • Patient record viewing page – when 1 was given as input in the choice. • Ward and bed record viewing page – when 2 was given as input in the choice. • Main menu – when 0 was given as input in the choice.
Conclusion	Expected result matches the test result.

Test case	5
Test objective	To check the managing staff choice page
Expected result	The program should redirect the user to respective features the managing staff can access by making a choice
Test result	The program redirected to the following pages after making the choices: ● Adding patient record page – when 1 was given as input in the choice. ● Editing patient record page – when 2 was given as input in the choice. ● Editing ward and bed information page – when 3 was given as input in the choice. ● Deleting patient record page – when 4 was given as input in the choice. ● Main menu – when 0 was given as input in the choice.
Conclusion	Expected result matches the test result

Test case	6
Test objective	To check admin choice page
Expected result	The program should redirect the user to respective features the admin can access by making a choice
Test result	The program redirected to the following pages after making the choices: ● Adding new staff page – when 1 was given as input in the choice. ● Changing username and password page – when 2 was given as input in the choice. ● Main menu – when 0 was given as input in the choice.
Conclusion	Expected result matches the test result

Test case	7
Test objective	To check whether the patient record details are saved in a file.
Expected result	Patient's details should be stored in a file.
Test result	The records were saved in a file.
Conclusion	Expected result matches the test result.

Test case	8
Test objective	To view the patient records in a tabular format.
Expected result	Patient's records displayed in a tabular format.
Test result	The records were displayed in a table.
Conclusion	Expected result matches the test result.

Test case	9
Test objective	To view the beds in different wards.
Expected result	Occupied (red) and unoccupied (green) beds in wards.
Test result	The beds and their status was displayed.
Conclusion	Expected result matches the test result.

Test case	10
Test objective	To edit a patient’s record.
Expected result	Existing record must be updated.
Test result	The existing record got updated.
Conclusion	Expected result matches the test result.

Test case	11
Test objective	To delete a patient’s record.
Expected result	Existing record must be deleted.
Test result	The existing record got deleted.
Conclusion	Expected result matches the test result.

Test case	12
Test objective	To free a bed.
Expected result	Occupied bed must be shown as unoccupied.
Test result	Selected occupied bed got shown as unoccupied.
Conclusion	Expected result matches the test result.

Test case	13
Test objective	To add new staff.
Expected result	New staff entries must be added in the file.
Test result	New information related to staffs were added.
Conclusion	Expected result matches the test result.

Test case	14
Test objective	To view staff list.
Expected result	The information of staff was displayed.
Test result	Information related to staff was displayed.
Conclusion	Expected result matches the test result.

Test case	15
Test objective	To change username and password.
Expected result	Changed password and username for admin, doctor and managing staffs.
Test result	The username and passwords for the admin doctor and managing staffs were changed.
Conclusion	Expected result matches the test result.

4.3 Implementation and result analysis

S.N	Test Objective	Result
1	To check the login system redirection.	Successful
2	To check the login system.	Successful
3	To check the project information page.	Successful
4	To check the doctor choice page.	Successful
5	To check the managing staff choice page.	Successful
6	To check the admin choice page.	Successful
7	To check whether the patient record details are saved in a file.	Successful
8	To view the patient records in a tabular format.	Successful
9	To view the beds in different wards.	Successful
10	To edit a patient's record.	Successful
11	To delete a patient's record.	Successful
12	To free a bed.	Successful
13	To add new staff.	Successful
14	To view staff list.	Successful
15	To change username and password.	Successful

5. Conclusion and Future Enhancements:

5.1 Conclusion

This application “COVID Administration System” is made by keeping the current pandemic situation in consideration to reduce the inconvenience in storing and managing the information related to COIVD infected patients. With the help of graphical representation it is easier to see the availability of beds in different wards. The login feature ensures the security of data since only authorized users can access the system.

5.2 Limitations:

Like every other program this program also has its own limitations and they are stated below:

- Online implementation is not possible.
- Multiple users cannot use the program at a time.
- Limited number of wards and beds.

5.3 Future Enhancements:

The future enhancements that could be done in this project are as follows:

.

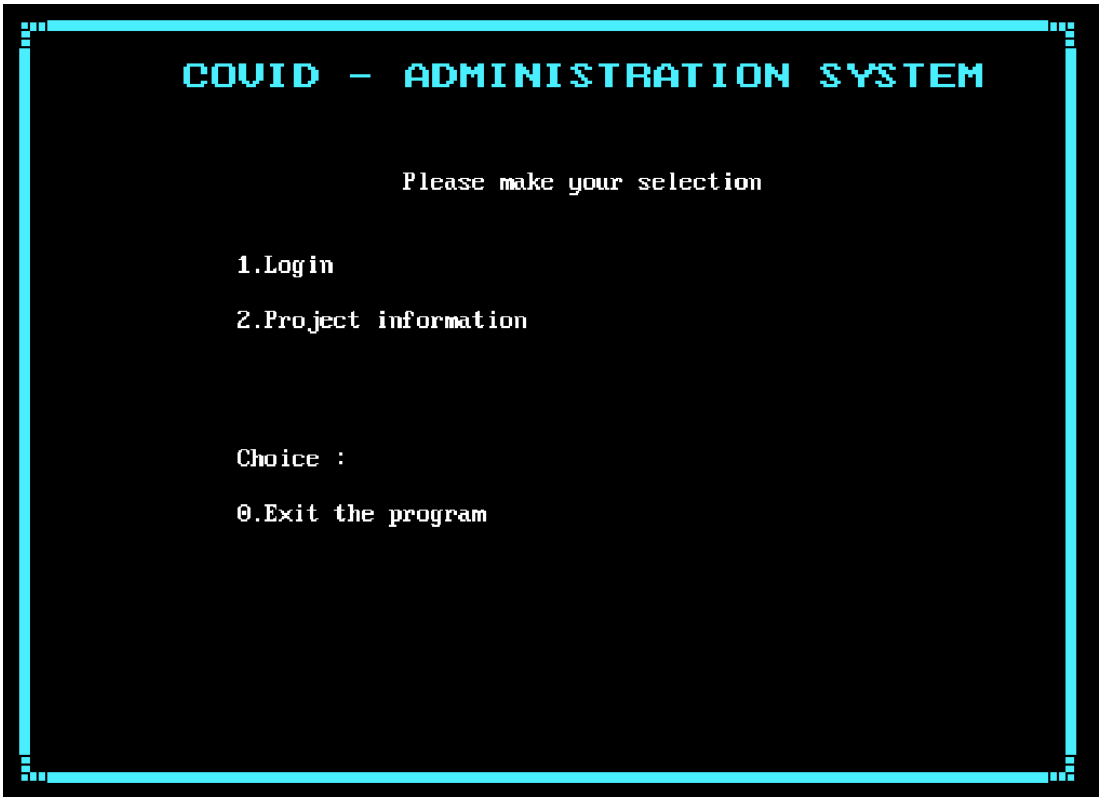
- Online access can be implemented.
- Patient’s data can be stored after discharge for future revisits.
- The user interface can be made for effective.

References:

- Balagurusamy, E. (n.d.). *Programming in ANSI C* (4th ed.). Tata McGraw Hill.
- Pudasaini, D. (2015). *Computer Science - II* (Revised ed.). Buddha Publication.

Appendices:

Appendix-1: (Output screen of the program)



COVID - ADMINISTRATION SYSTEM

Login page

Username : doctor19

Password : ********

COVID - ADMINISTRATION SYSTEM

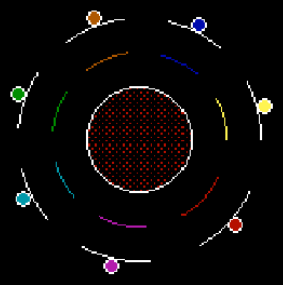
COVID AS

Prepared By:

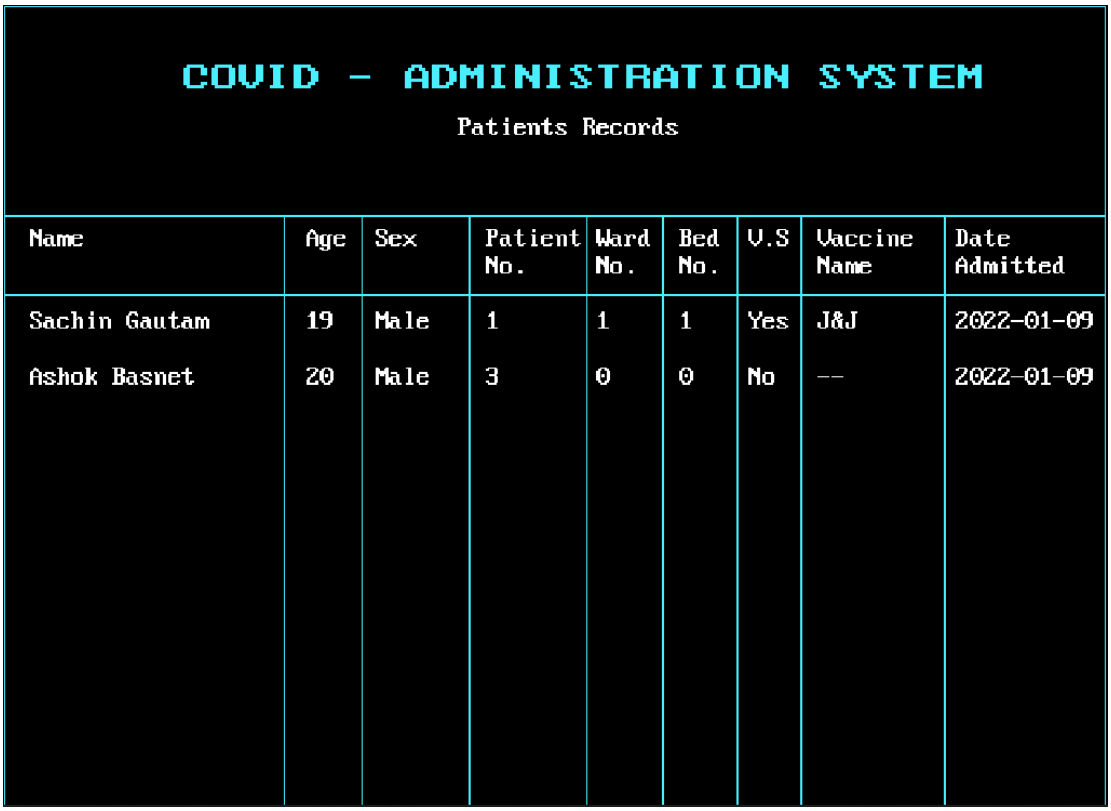
Archana Khadka
Ashok Basnet
Sachin Gautam

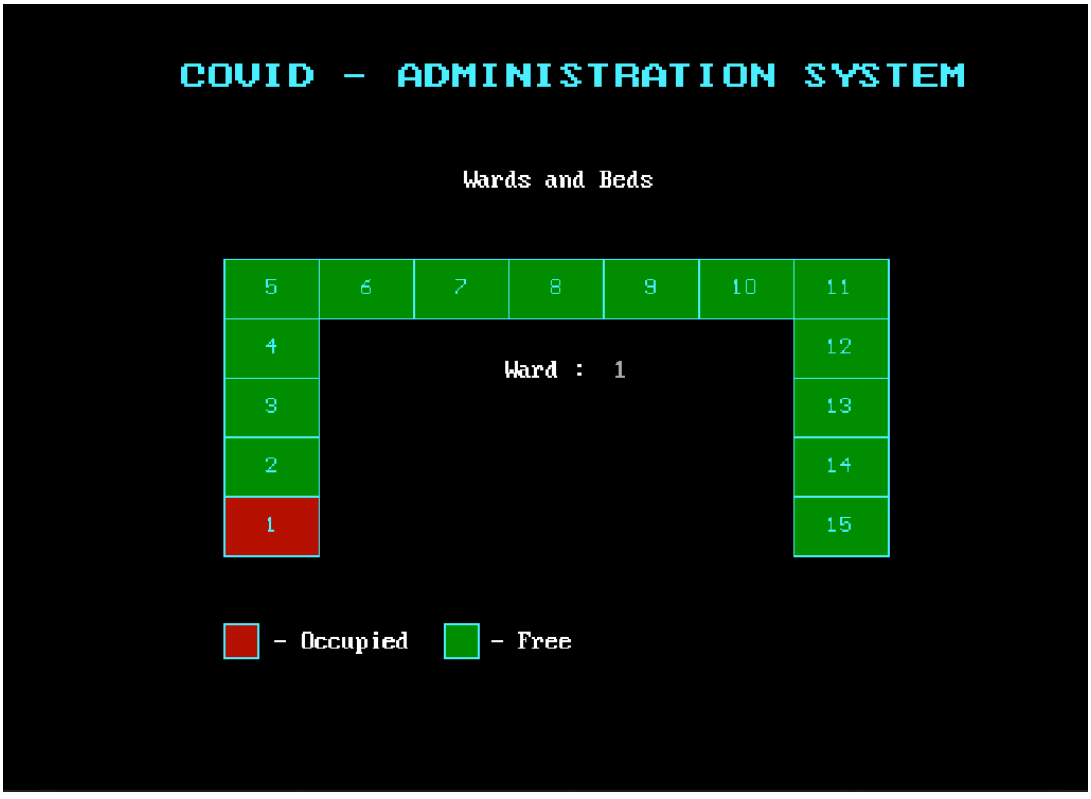
Project Supervisor:

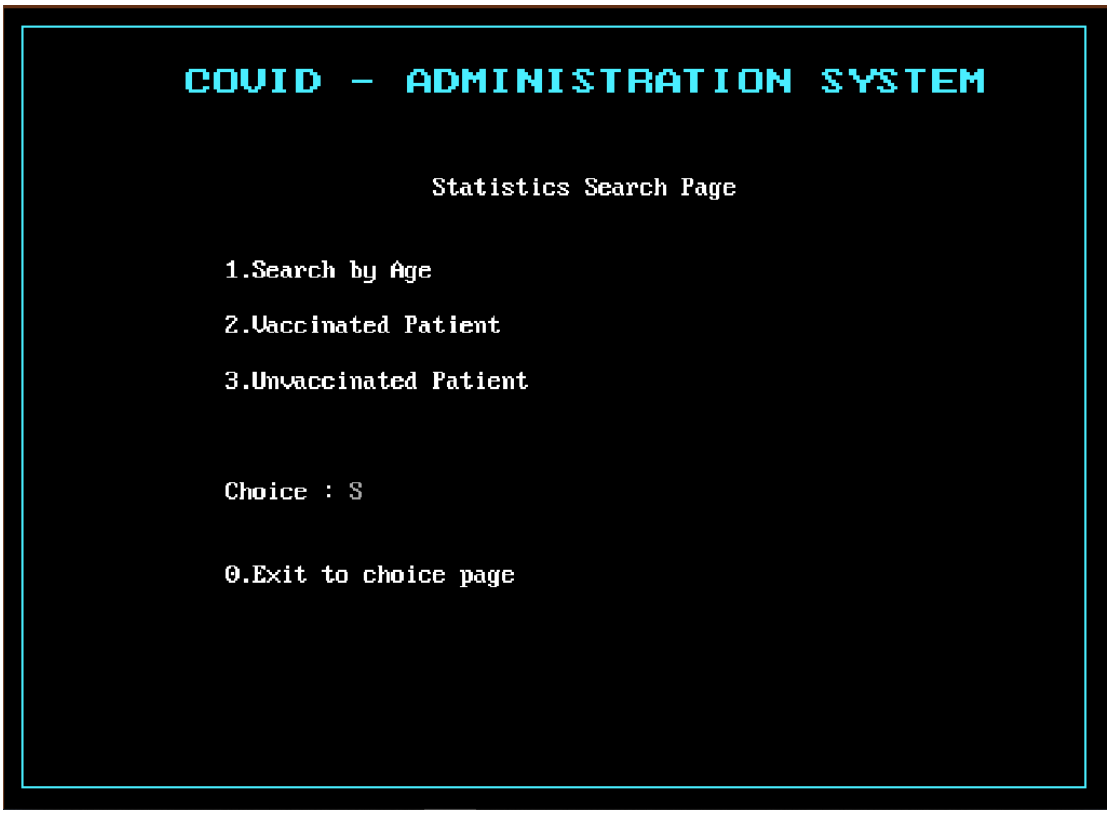
Prakash Gautam

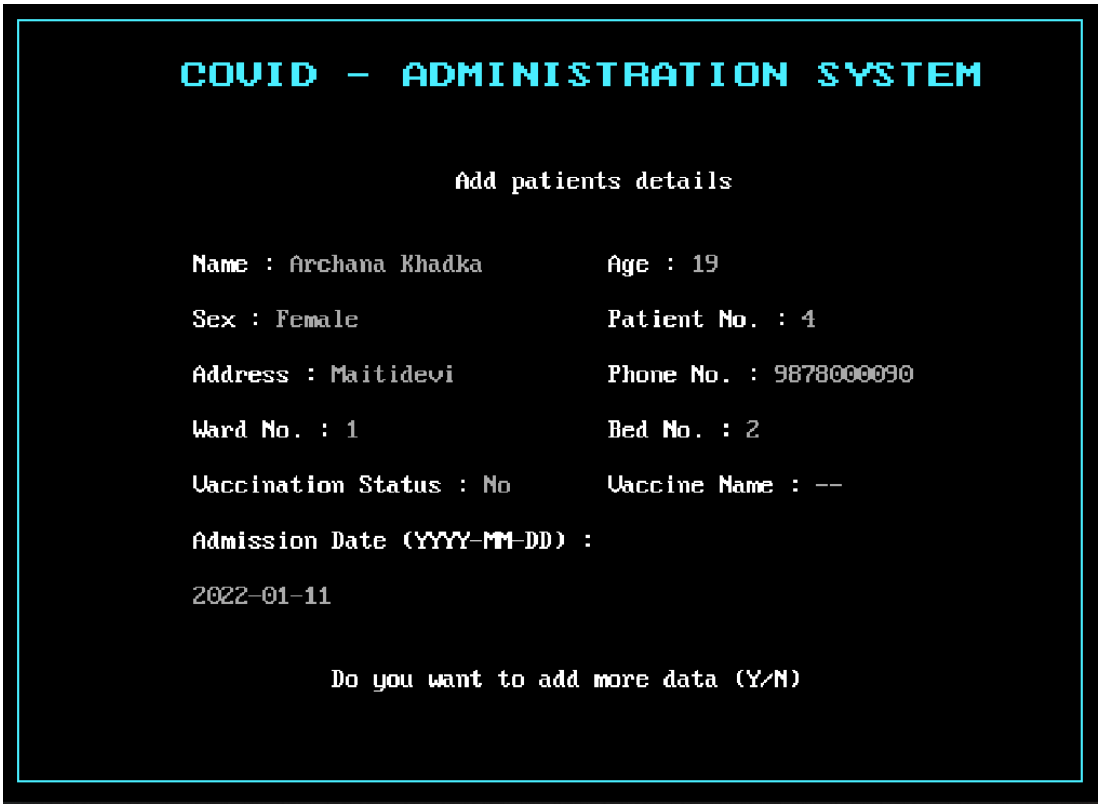


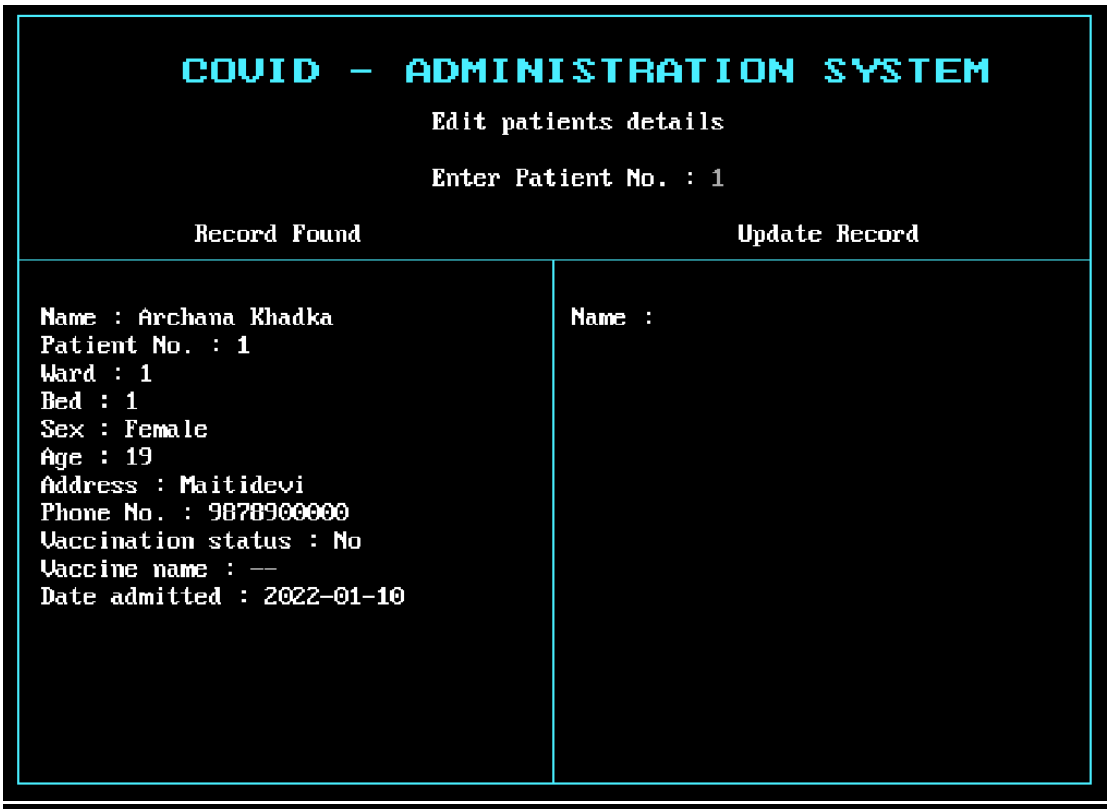
Press any key to go back

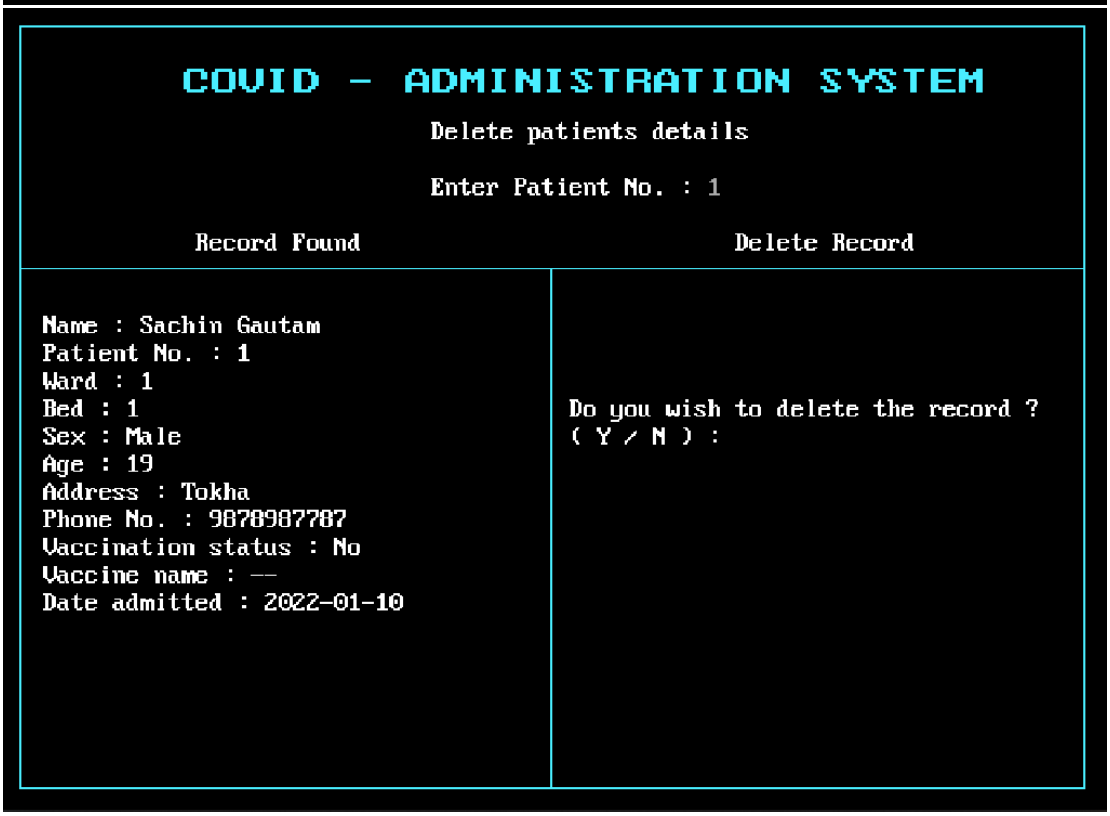

COVID - ADMINISTRATION SYSTEM
Patients Records
Name
Age
Sex
Patient No.
Ward No.
Bed No.
V.S
Vaccine Name
Date Admitted
Sachin Gautam
19
Male
1
1
1
Yes
J&J
2022-01-09
Ashok Basnet
20
Male
3
0
0
No
--
2022-01-09

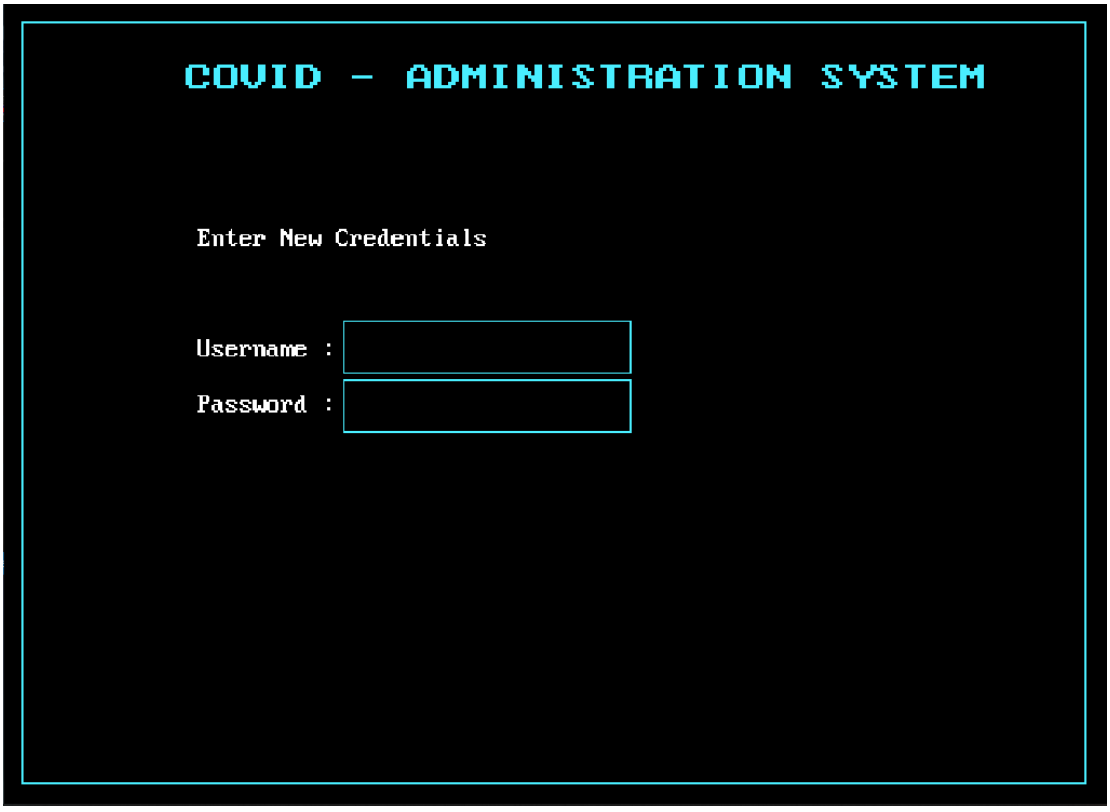

COVID - ADMINISTRATION SYSTEM
Wards and Beds
5
6
7
8
9
10
11
4
12
Ward : 1
3
13
2
14
1
15
- Occupied
- Free

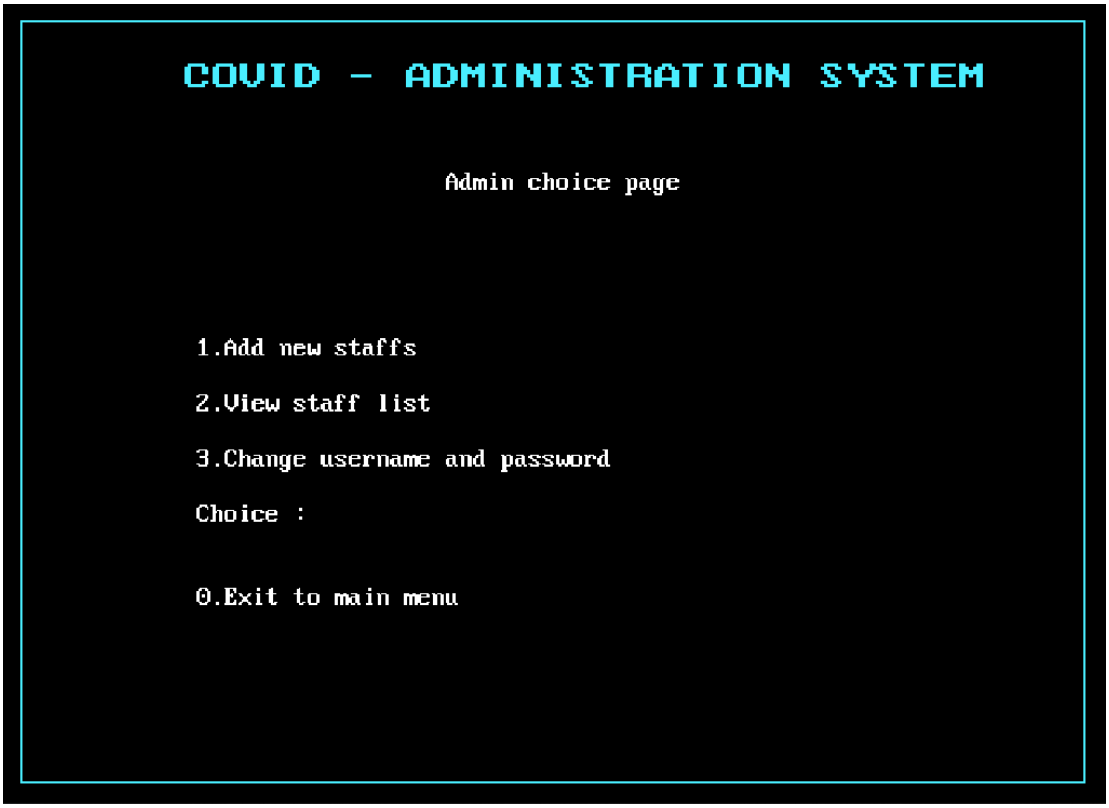

COVID - ADMINISTRATION SYSTEM
Statistics Search Page
1.Search by Age
2.Vaccinated Patient
3.Unvaccinated Patient
Choice : S
0.Exit to choice page


COVID - ADMINISTRATION SYSTEM
Add patients details
Name : Archana Khadka
Age : 19
Sex : Female
Patient No. : 4
Address : Maitidevi
Phone No. : 9878000090
Ward No. : 1
Bed No. : 2
Vaccination Status : No
Vaccine Name : --
Admission Date (YYYY-MM-DD) :
2022-01-11
Do you want to add more data (Y/N)


COVID - ADMINISTRATION SYSTEM
Edit patients details
Enter Patient No. : 1
Record Found
Update Record
Name : Archana Khadka
Patient No. : 1
Ward : 1
Bed : 1
Sex : Female
Age : 19
Address : Maitidevi
Phone No. : 9878900000
Vaccination status : No
Vaccine name : --
Date admitted : 2022-01-10
Name :


COVID - ADMINISTRATION SYSTEM
Delete patients details
Enter Patient No. : 1
Record Found
Delete Record
Name : Sachin Gautam
Patient No. : 1
Ward : 1
Bed : 1
Sex : Male
Age : 19
Address : Tokha
Phone No. : 9878987787
Vaccination status : No
Vaccine name : --
Date admitted : 2022-01-10
Do you wish to delete the record ?
(Y / N) :


COVID - ADMINISTRATION SYSTEM
Enter New Credentials
Username :
Password :


COVID - ADMINISTRATION SYSTEM
Admin choice page
1.Add new staffs
2.View staff list
3.Change username and password
Choice :
0.Exit to main menu