GitHub Link

https://github.com/ahanaf-mohosen57/Capston-Project-in-C-language

DOCUMENTATION

Project Documentation

Project Name: Blood Donor Information System (BONDHON)
Course Title: Software Development Capstone Project
Course Code: SE-133

Submitted By:

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ID Number: 0242220005341072
Batch & Section: 39-A
Department: Software Engineering - SWE
Institute: Daffodil International University

Submitted To:

Md. Shohel Arman
Assistant Professor
Department of Software Engineering – SWE
Daffodil International University

Submission Date:

26 November, 2023

DEPARTMENT OF SOFTWARE ENGINEERING

DECLEARATION OF PROJECT

Author Name: Md. Ahanaf Mohosen

Student ID Number: 0242220005341072

Title of Project: Blood Donor Information System (BONDHON)

Academic Session: Fall – 2023

As author, I formally transfer ownership of the project to Daffodil International University, specifically to be housed within the Software Engineering Department. Additionally, I grant DIU the authorization to replicate this project, either wholly or partially, solely for research or academic exchange purposes.

Author:	Certified By:
______________________	______________________
Signature	Signature of Supervisor
Md. Ahanaf Mohosen	Md. Shohel Arman
ID Number: 0242220005341072	Assistant Professor, Dept. of SWE, DIU
Date: 26 November, 2023	Date: 26 November, 2023

AKNOWLEDGMENT

Firstly, I am humbly grateful to Allah for bestowing upon me the strength to initiate and successfully conclude my project.

Secondly, I extend my heartfelt thanks to **Daffodil International University** for presenting me with this remarkable opportunity and for the development of this project. Additionally, I would like to express my appreciation to my software engineering department, particularly our esteemed department head, **Dr. Imran Mahmud**, and my dedicated teachers for their exceptional teaching and instilling excellence.

This project, a **Blood Donor Information System (BONDHON)**, is designed to compile, integrate, and manage all the employee data of a company. It brings me immense pride and joy to have been able to work on such a project and to actualize a dream of mine.

Furthermore, I would like to acknowledge the unwavering encouragement and support of my dearest parents, as well as my friends who have contributed to this project.

Lastly, I would like to express my gratitude to my esteemed teacher, **Md. Shohel Arman**, for his brilliant teaching and guidance during the course of his study and my project.

Thanks

Md. Ahanaf Mohosen

TABLE OF CONTENT

LIST OF ABBREVIATIONS

- _WIN32_WINNT: This macro defines the minimum supported Windows platform. In this case, it's set to 0x0500, indicating Windows 2000 or later.
- Sdata: This structure represents login data and contains two-character arrays for user_name and password.
- stu: This structure represents student information, including fields such as id, name, batch, section, blood_group, gender, mobile, and email.
- MaximizeOutputWindow(): A function that maximizes the console output window.
    - SetConsoleSize(): A function that sets the console size.
    - user_login(): A function for handling user login.
    - admin_access(): A function for handling admin access.
    - user_registration(): A function for user registration.
    - about(): A function providing information about the programmer.
    - admin_guideline(): A function providing guidelines for administrators.
    - user_guideline(): A function providing guidelines for users.
    - logo(): A function to display a logo.
    - createAccount(): A function for creating a student account.
    - displayInfo(): A function to display all students' information.
    - updateInfo(): A function to update student information.
    - deleteInfo(): A function to delete student information.
    - searchInfo(): A function to search for student information.
    - menu(): The main menu function, handling user input for various options.
    - user_home(): Function for the user interface after login, providing options for displaying, searching, and logging out.
    - admin_home(): Function for the admin interface after login, providing options for creating, displaying, updating, deleting, searching, and logging out.
    - main(): The main function where the program starts. Calls the menu() function.

ABSTRACT

Blood Donation Management System

The provided C-based code implements a comprehensive Blood Donation based on Student Information System as a console application. The system primarily caters to administrators, requiring authentication to access functionalities such as donor information creation, display, update, and deletion. Donor details encompass vital information like ID, name, batch, section, blood group, contact number, and email, all of which are stored in a file ("studentInfo.txt").

The application features an aesthetically pleasing logo and includes various operations to streamline donor management. Key functionalities encompass the creation of new donor accounts, displaying a consolidated list of all donors, updating existing donor information, and deleting donor records. The system also facilitates a search mechanism, allowing administrators to locate donors based on their ID, batch, or blood group.

The code integrates console window management functions to enhance user interaction, such as setting console size and maximizing the output window. Overall, this Blood Donation Management System aims to provide a user-friendly and efficient platform for managing donor information, thereby contributing to the facilitation of blood donation processes.

PROJECT OVERVIEW

Blood Donation using Student Information System – (BONDHON)

The Blood Donation base on Student Information System (BONDHON) is a software solution designed for the efficient management of blood donor information. This system serves organizations involved in blood donation campaigns by providing a user-friendly platform for donor registration, tracking, and administration.

Scope:

The BONDHON allows administrators to perform essential functions, including donor registration, information retrieval, updates, and deletions. Donor details, such as unique IDs, names, batches, blood groups, contact numbers, and email addresses, are stored in a structured format within a file ("studentInfo.txt").

Key Features:

Authentication: Administrators must authenticate themselves to access the system securely.

Donor Registration: Enables the creation of new donor accounts with essential information.

Display Donor Information: Presents a consolidated view of all donors for quick reference.

Update Donor Information: Allows administrators to modify existing donor records.

Delete Donor Records: Efficiently removes unnecessary or outdated donor information.

Search Functionality: Facilitates quick retrieval of donor information based on specific criteria.

Console Window Management:

The application includes functions to enhance user interaction, such as setting the console size and maximizing the output window.

Benefits:

Efficient Donor Management: Centralized platform for streamlined donor information management.

Data Accuracy: Regular updates and deletion of outdated records contribute to maintaining accurate donor information.

Quick Retrieval: The search functionality enables administrators to locate donors quickly.

User-Friendly Interface: The console-based interface is designed for ease of use by administrators.

Future Enhancements:

Potential future enhancements could include features like automated donor reminders, blood donation scheduling, and integration with external databases for expanded donor reach.

Conclusion:

The BONDHON is a valuable tool for organizations engaged in blood donation initiatives. By providing efficient donor management and a user-friendly interface, the system contributes to the overall effectiveness of blood donation processes, ultimately supporting organized and streamlined blood donation campaigns and potentially saving lives.

OBSTACLES

I have faced some obstacles while I was writing the code of this project. Because this is a huge project and it actually needs to use different types or topics in c language.

Also, after coding of the project we have to write a gain the documentation of this project so it's little bit pain full but thanks to Allah we have successfully done it.

TECHNOLOGY REQUIRENMENT (SOFTWARE & HARDWARE)

Software and Application Platform:

- CodeBlocks

Hardware:

Unfortunately, there is no hardware used in my project.

Support

Provide the full support for maintenance. Give proper support so that the project will run smoothly.

MILESTONE & REPORTING

The project progressed through four distinct phases:

- Information Analysis
- Development
- Design
- Testing

Milestone	Tasks	Hours	Date
01	Information Analysis	08	28 October, 2023
02	Development	18	02 November, 2023
03	Design	05	10 November, 2023
04	Testing	03	14 November, 2023

Each phase was integral to the structured development and implementation of the project.

TRAINING

Everyone don’t need training. In system there will provide user and admin different type of using system guidelines.

CONTACT ME

Please feel free to reach out to me using any of the following contact methods:

- Email: mohosen22205341072@diu.edu.bd
- Mobile: +8801841576957

REQUIREMENT ELICITATION

The system necessitates the involvement of two distinct user roles:

- Admin
- Students

These roles are integral to the functioning and utilization of the system.

Task of Admin:

1. Create Student Account:

i. Input and store student details.
ii. Assign a unique ID to each student.
iii. Ensure data integrity and validity.

2. Display All Students Information:

i. Present a comprehensive list of all students.
ii. Include details like ID, name, batch, section, blood group, contact number, and email.

3. Update Student Information:

i. Allow administrators to modify student details based on the student's ID.
ii. Choose fields for update, such as ID, name, batch, section, blood group, contact number, or email.

4. Delete Student Information:

i. Confirm the deletion of student information based on the student's ID.
ii. Ensure user confirmation before executing the delete operation.

5. Search Student Information:

i. Implement a search functionality for administrators.
ii. Search based on various criteria, including student ID, blood group, or batch.

Task of Students:

1. Create Account:

i. Input personal details (ID, name, batch, section, blood group, gender, mobile number, email).

ii. Register as a student.

2. View All Students:

i. Access a tabular display of all student information.

ii. View details such as ID, name, batch, section, blood group, contact number, and email.

3. Search for Students:

i. Search for students based on criteria like student ID, blood group, or batch.

ii. View details of matching students.

Task of System:

1. Data Storage:

i. Maintain a file-based storage system (e.g., studentInfo.txt).

ii. Store and retrieve student information.

2. User Authentication:

i. Validate user credentials during login.

ii. Ensure secure access for both users and administrators.

3. Error Handling:

i. Implement error messages for invalid inputs or unsuccessful operations.

ii. Provide feedback to users/administrators for successful or unsuccessful tasks.

4. User Interface:

i. Develop an intuitive and user-friendly interface for both users and administrators.
ii. Display relevant information in a structured format.

5. Documentation:

i. Include an 'About' section with details about the project, including the programmer's information and submission details.
ii. Provide guidelines for administrators and users through 'Admin Guideline' and 'User Guideline' sections.

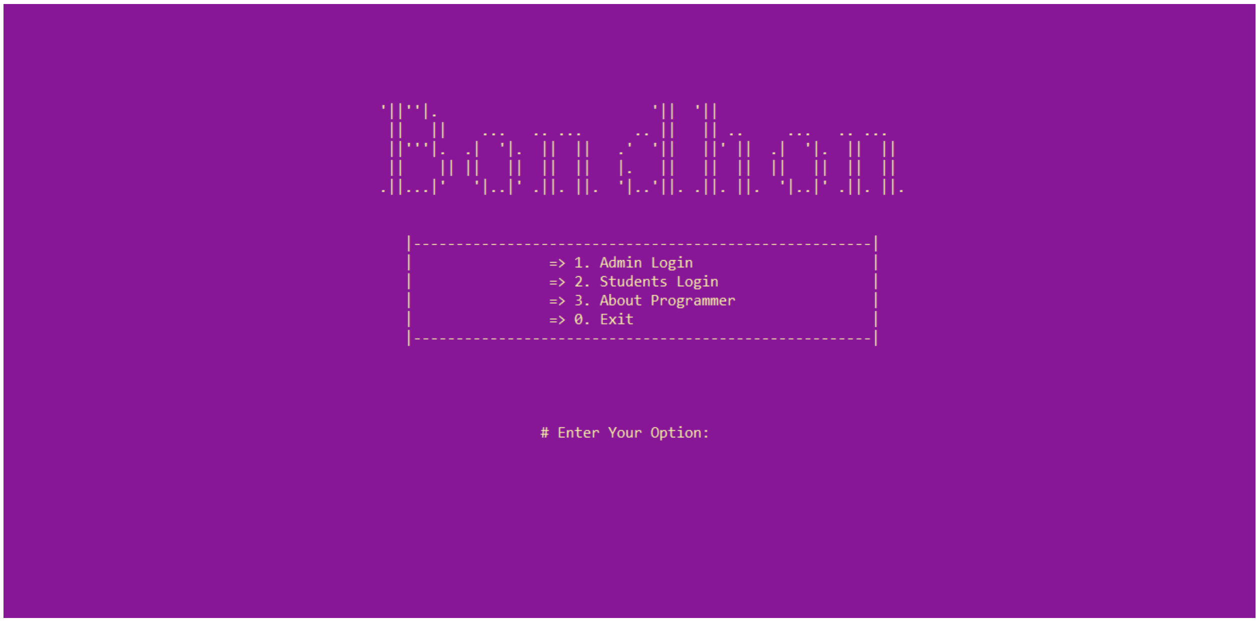
6. Additional Features:

i. Include a logo for a personalized touch.
ii. Set console size and maximize the output window for a better user experience.

PROJECT METHADOLGY AND USER MANUAL

This is the Main Menu page of my project as you can see, I have created a lot feature and you have to select one of these options.

=> 1. Admin Login
=> 2. Students Login
=> 3. About Programmer
=> 0. Exit



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 ||'''|.  .|  '|.  ||  ||   .'  '||   ||' ||  .|  '|.  ||  ||
 ||    || ||   ||  ||  ||   |.   ||   ||  ||  ||   ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|'  .||. ||.

   |------------------------------------------------------|
   |                => 1. Admin Login                     |
   |                => 2. Students Login                  |
   |                => 3. About Programmer                |
   |                => 0. Exit                            |
   |------------------------------------------------------|

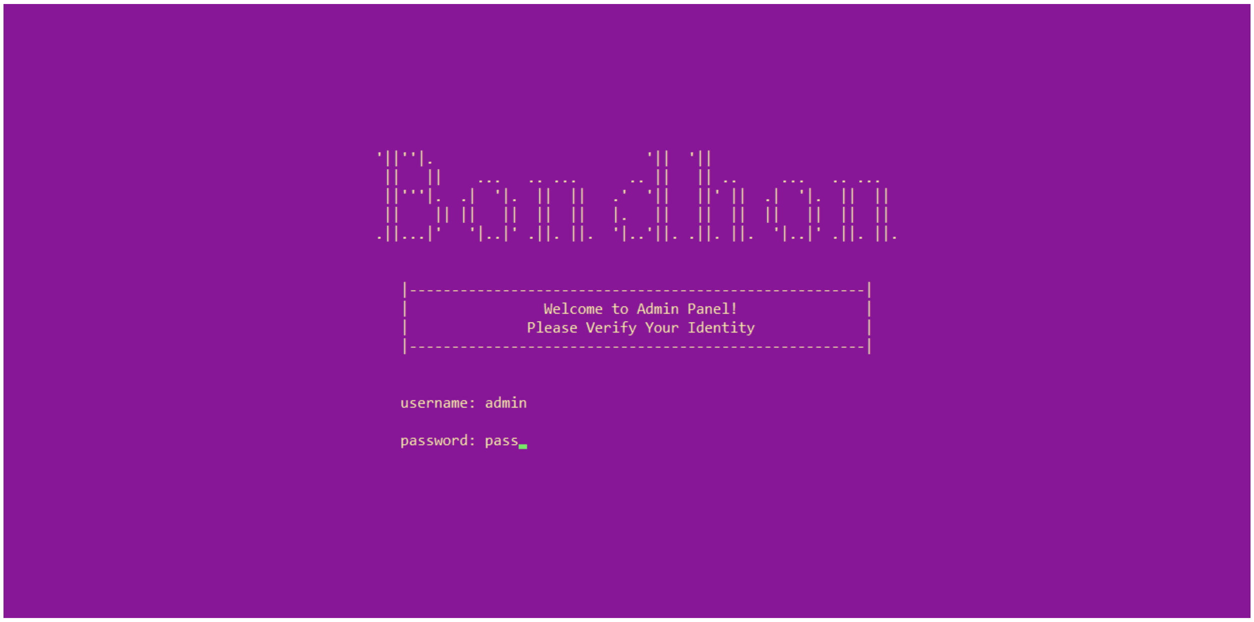


                   # Enter Your Option:
```

If admin want to go project admin home page, then you have to login first as a admin.
So that, press 1 for Admin Login.

Admin

=> 1. Admin Login



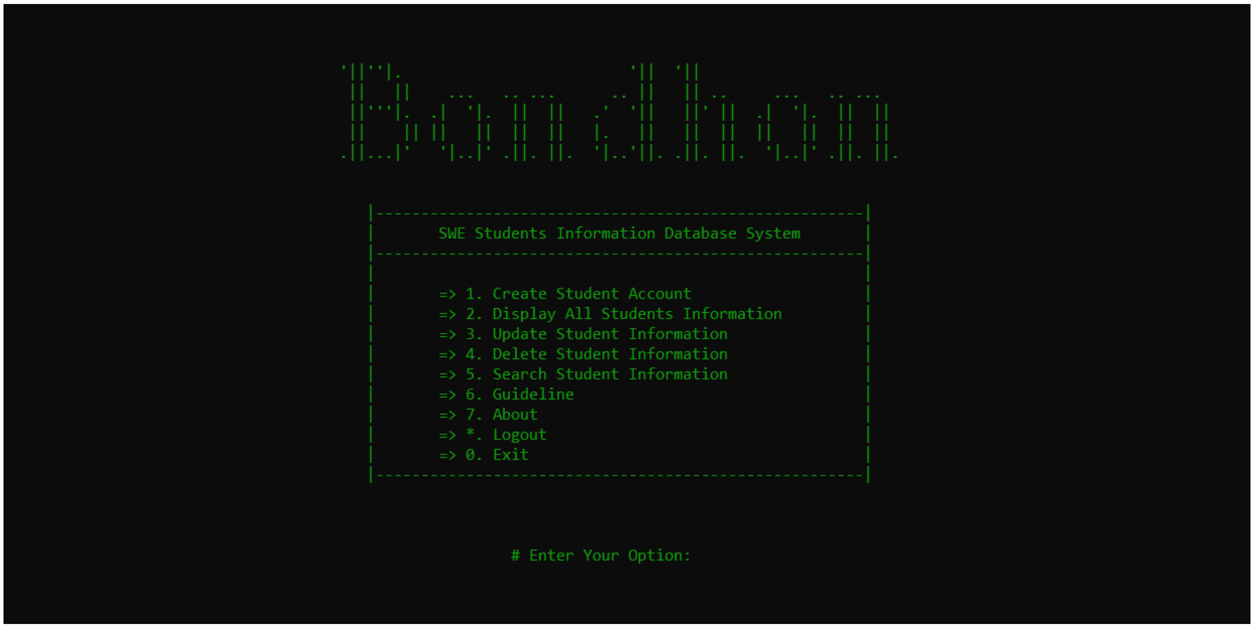
```
'||''|.                         '||  '||
 ||   ||    ...   .. ...      .. ||   || ..     ...   .. ...
 ||'''|.  .|  '|.  ||   ||  .'  '||   ||' ||  .|   '|.  ||  ||
 ||    || ||   ||  ||   ||  |.   ||   ||  ||  ||    ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|' .||. ||.

   |-----------------------------------------------------|
   |               Welcome to Admin Panel!               |
   |            Please Verify Your Identity              |
   |-----------------------------------------------------|


   username: admin

   password: pass_
```

The admin press username and password. Then you access the admin home page.

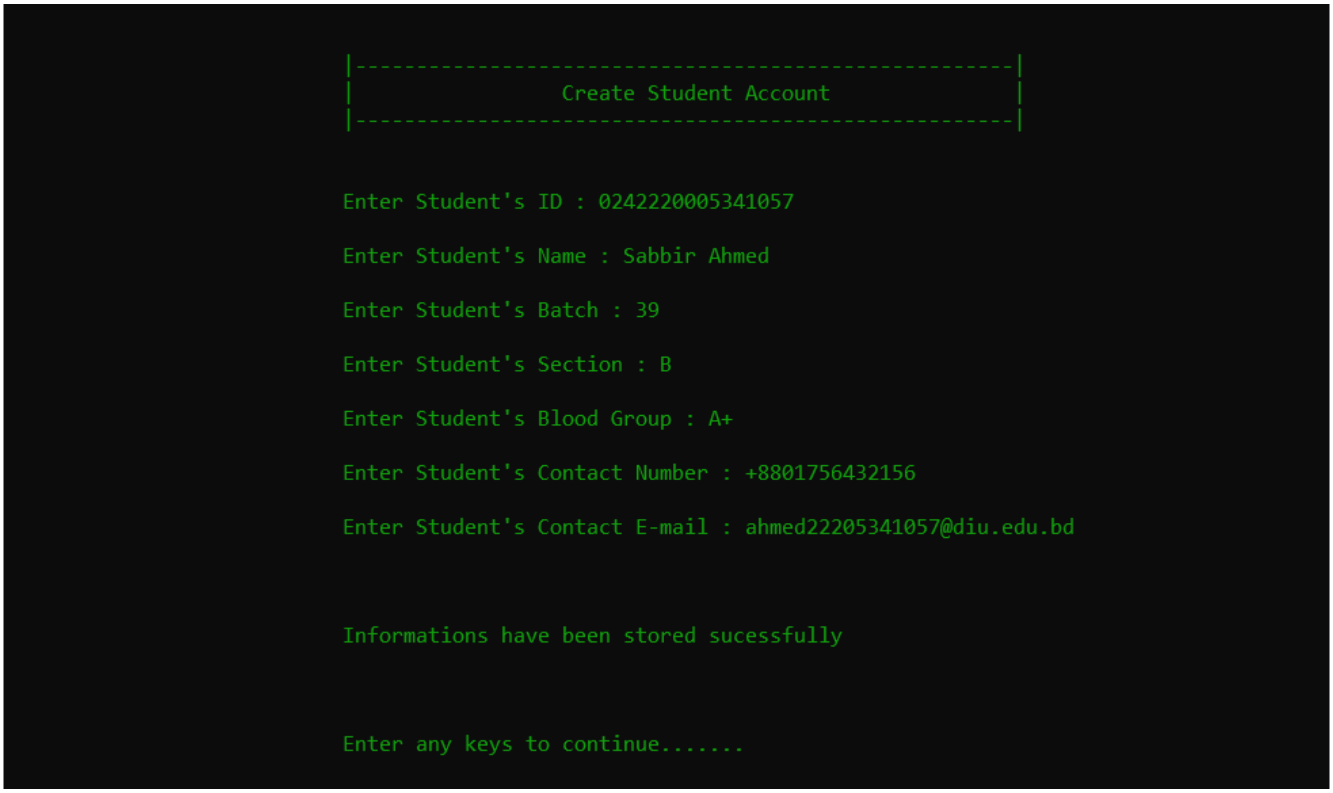


```
'||''|.                         '||  '||
 ||   ||    ...   .. ...      .. ||   || ..     ...   .. ...
 ||'''|.  .|  '|.  ||   ||  .'  '||   ||' ||  .|   '|.  ||  ||
 ||    || ||   ||  ||   ||  |.   ||   ||  ||  ||    ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|' .||. ||.

   |-------------------------------------------------------|
   |       SWE Students Information Database System        |
   |-------------------------------------------------------|
   |                                                       |
   |       => 1. Create Student Account                    |
   |       => 2. Display All Students Information          |
   |       => 3. Update Student Information                |
   |       => 4. Delete Student Information                |
   |       => 5. Search Student Information                |
   |       => 6. Guideline                                 |
   |       => 7. About                                     |
   |       => *. Logout                                    |
   |       => 0. Exit                                      |
   |-------------------------------------------------------|


                # Enter Your Option:
```

=> 1. Create Student Account:



```
|----------------------------------------------------|
|               Create Student Account               |
|----------------------------------------------------|


Enter Student's ID : 0242220005341057

Enter Student's Name : Sabbir Ahmed

Enter Student's Batch : 39

Enter Student's Section : B

Enter Student's Blood Group : A+

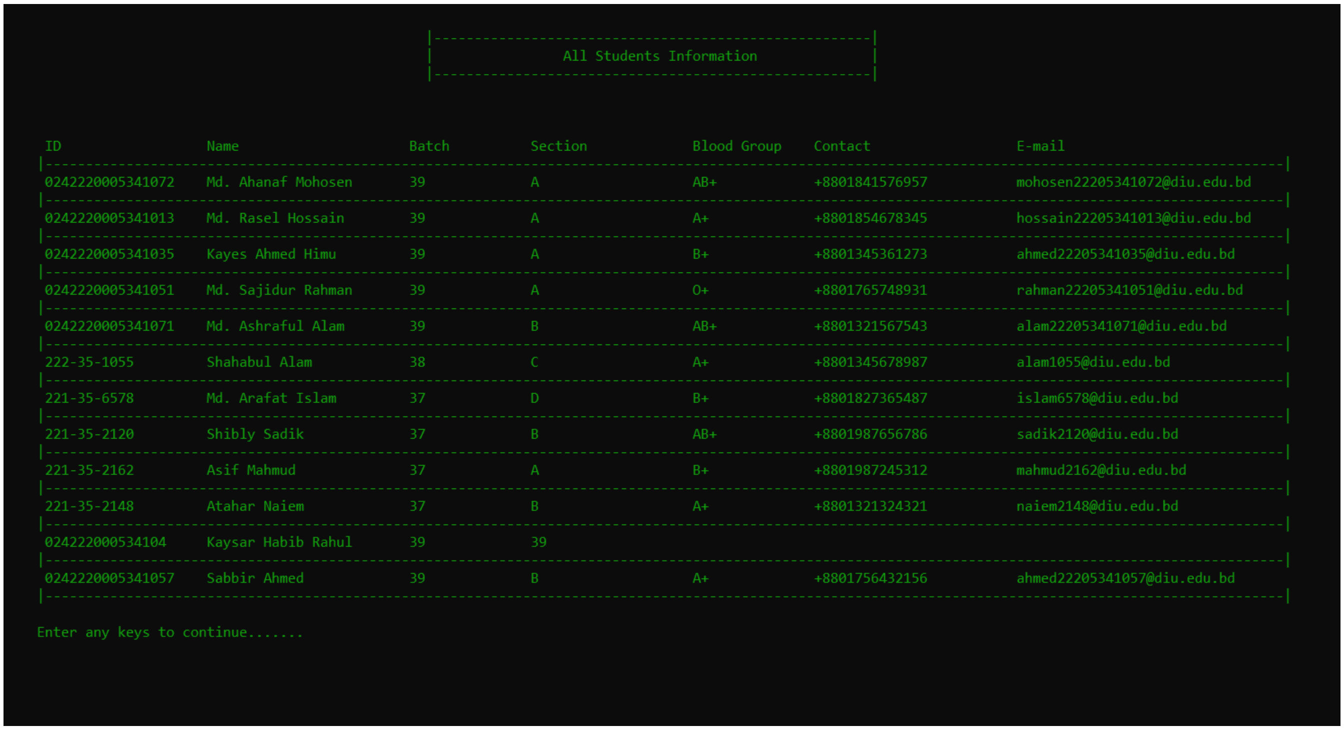
Enter Student's Contact Number : +8801756432156

Enter Student's Contact E-mail : ahmed22205341057@diu.edu.bd


Informations have been stored sucessfully


Enter any keys to continue.......
```

=> 2. Display All Students Information:

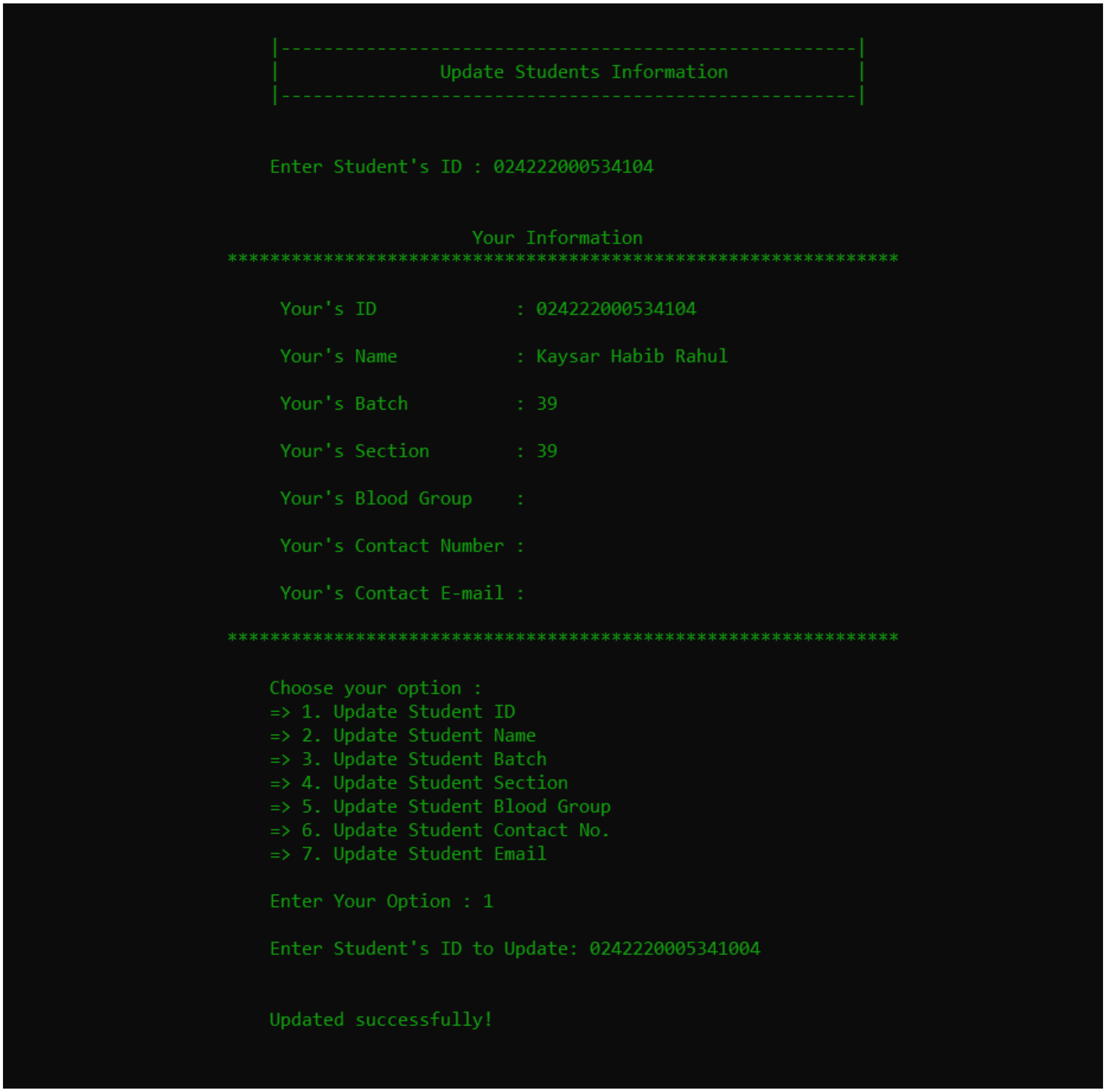


```
                                     |------------------------------------------------------|
                                     |               All Students Information               |
                                     |------------------------------------------------------|


 ID                Name                 Batch        Section          Blood Group    Contact              E-mail
|-----------------------------------------------------------------------------------------------------------------------------|
 0242220005341072  Md. Ahanaf Mohosen   39           A                AB+            +8801841576957       mohosen22205341072@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 0242220005341013  Md. Rasel Hossain    39           A                A+             +8801854678345       hossain22205341013@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 0242220005341035  Kayes Ahmed Himu     39           A                B+             +8801345361273       ahmed22205341035@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 0242220005341051  Md. Sajidur Rahman   39           A                O+             +8801765748931       rahman22205341051@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 0242220005341071  Md. Ashraful Alam    39           B                AB+            +8801321567543       alam22205341071@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 222-35-1055       Shahabul Alam        38           C                A+             +8801345678987       alam1055@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 221-35-6578       Md. Arafat Islam     37           D                B+             +8801827365487       islam6578@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 221-35-2120       Shibly Sadik         37           B                AB+            +8801987656786       sadik2120@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 221-35-2162       Asif Mahmud          37           A                B+             +8801987245312       mahmud2162@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 221-35-2148       Atahar Naiem         37           B                A+             +8801321324321       naiem2148@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|
 024222000534104   Kaysar Habib Rahul   39           39
|-----------------------------------------------------------------------------------------------------------------------------|
 0242220005341057  Sabbir Ahmed         39           B                A+             +8801756432156       ahmed22205341057@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------|

Enter any keys to continue.......
```

=> 3. Update Student Information:



```
    |-----------------------------------------------------|
    |               Update Students Information           |
    |-----------------------------------------------------|


    Enter Student's ID : 024222000534104


                       Your Information
***************************************************************

     Your's ID             : 024222000534104

     Your's Name           : Kaysar Habib Rahul

     Your's Batch          : 39

     Your's Section        : 39

     Your's Blood Group    :

     Your's Contact Number :

     Your's Contact E-mail :

***************************************************************

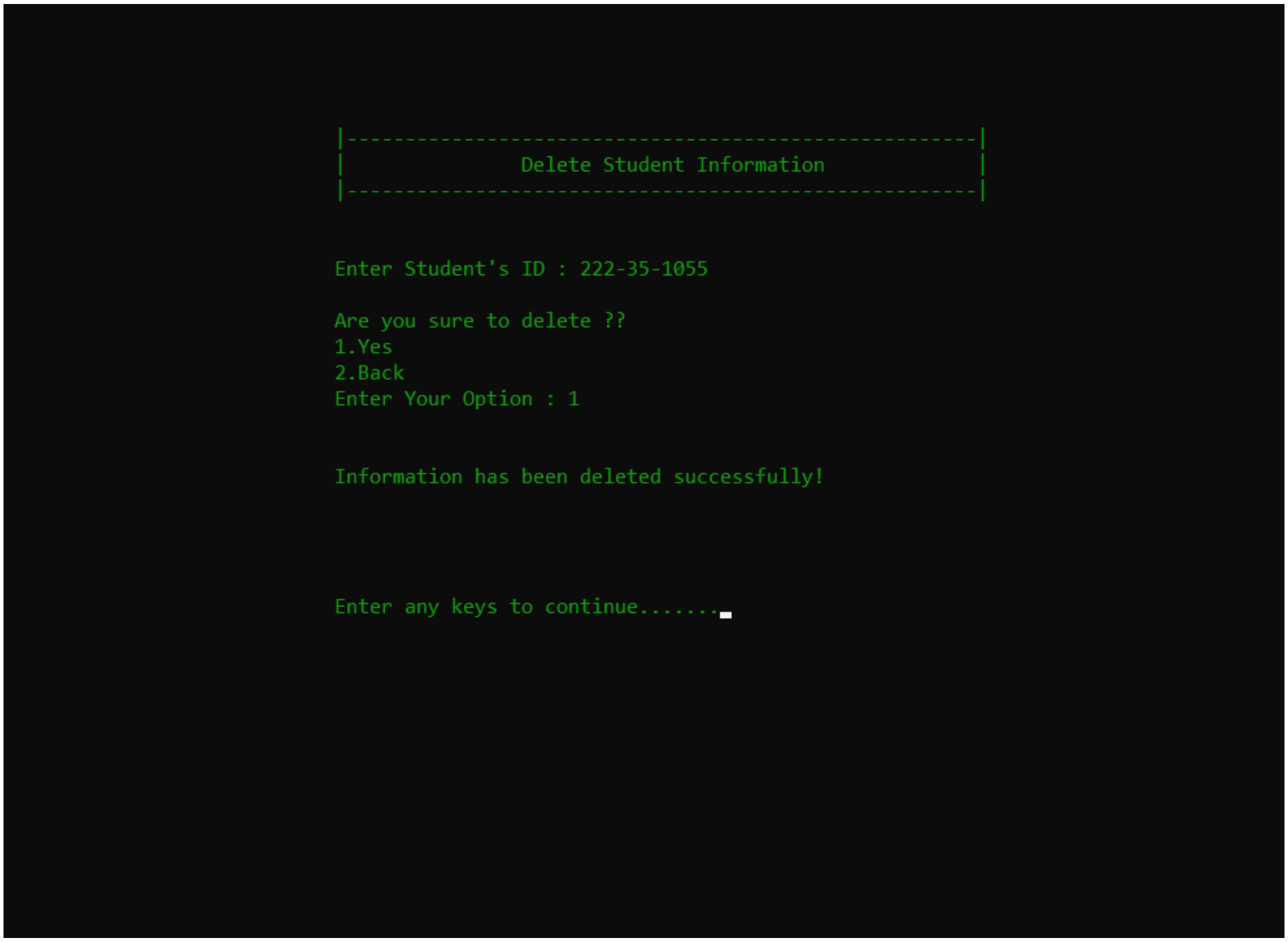
    Choose your option :
    => 1. Update Student ID
    => 2. Update Student Name
    => 3. Update Student Batch
    => 4. Update Student Section
    => 5. Update Student Blood Group
    => 6. Update Student Contact No.
    => 7. Update Student Email

    Enter Your Option : 1

    Enter Student's ID to Update: 0242220005341004


    Updated successfully!
```

=> 4. Delete Student Information:



```
|------------------------------------------------------|
|                Delete Student Information            |
|------------------------------------------------------|


Enter Student's ID : 222-35-1055

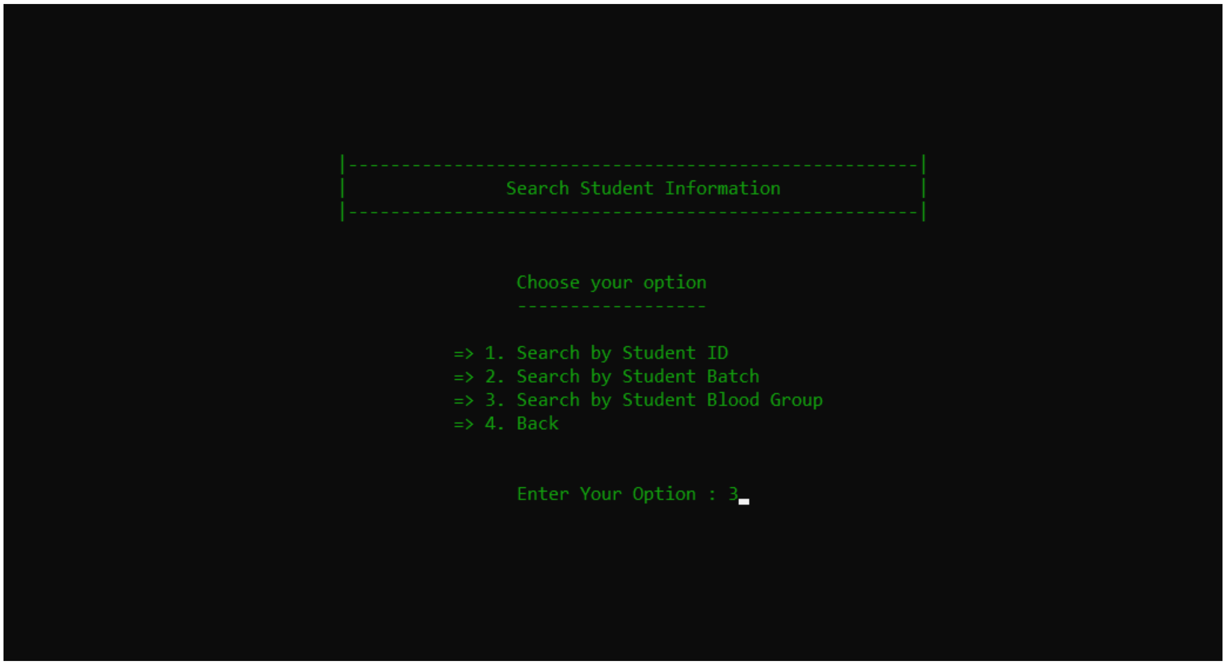
Are you sure to delete ??
1.Yes
2.Back
Enter Your Option : 1


Information has been deleted successfully!




Enter any keys to continue.......
```

=> 5. Search Student Information:

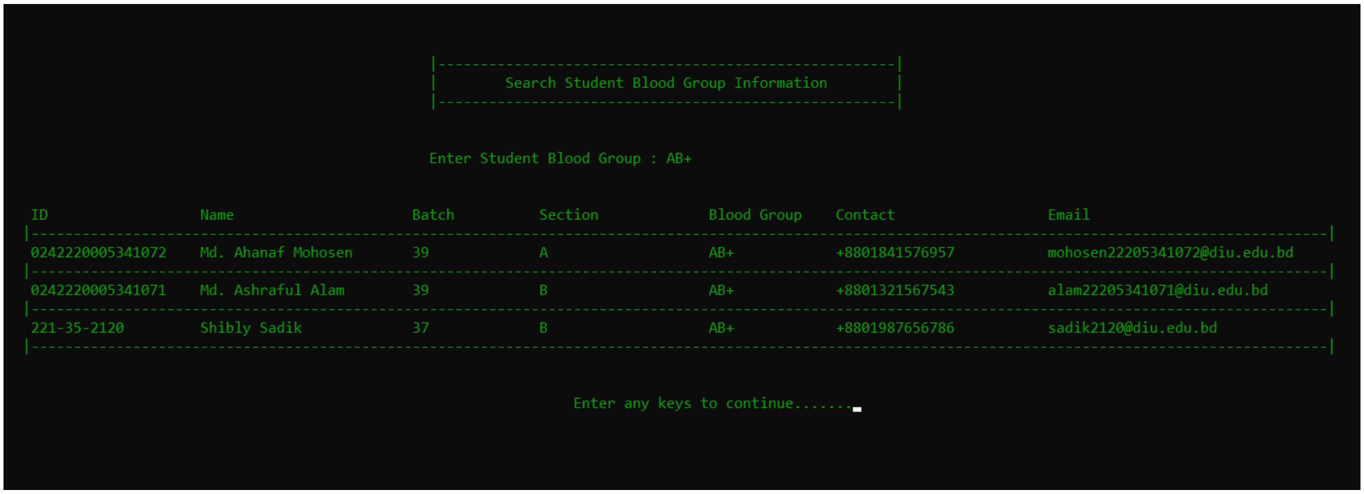


```
|-----------------------------------------------------|
|             Search Student Information              |
|-----------------------------------------------------|


              Choose your option
              ------------------

       => 1. Search by Student ID
       => 2. Search by Student Batch
       => 3. Search by Student Blood Group
       => 4. Back


              Enter Your Option : 3
```



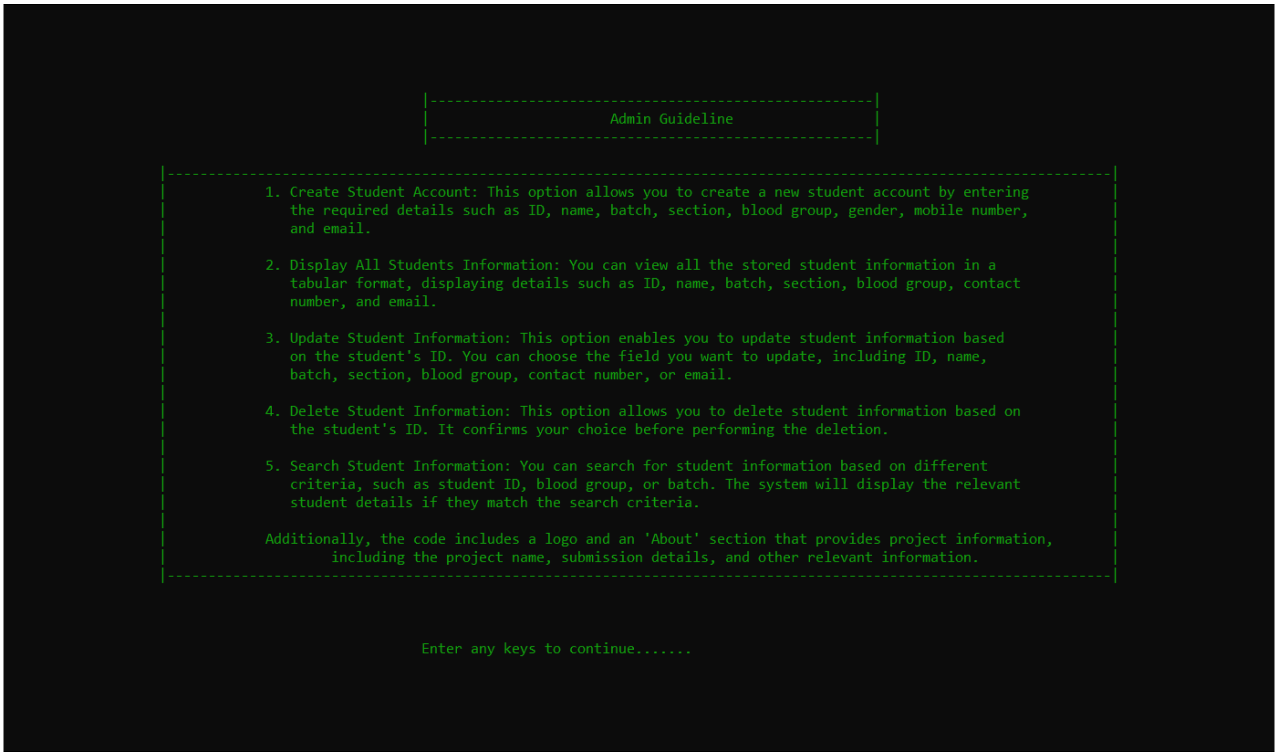
```
                              |-----------------------------------------------------|
                              |          Search Student Blood Group Information      |
                              |-----------------------------------------------------|


                              Enter Student Blood Group : AB+


 ID                  Name                     Batch          Section             Blood Group    Contact                  Email
|-----------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341072    Md. Ahanaf Mohosen       39             A                   AB+            +8801841576957           mohosen22205341072@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341071    Md. Ashraful Alam        39             B                   AB+            +8801321567543           alam22205341071@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------------------------|
 221-35-2120         Shibly Sadik             37             B                   AB+            +8801987656786           sadik2120@diu.edu.bd
|-----------------------------------------------------------------------------------------------------------------------------------------------|


                                             Enter any keys to continue.......
```

=> 6. Guideline:



```
                                   |-------------------------------------------------------|
                                   |                   Admin Guideline                     |
                                   |-------------------------------------------------------|

     |-------------------------------------------------------------------------------------------------------------------|
     |            1. Create Student Account: This option allows you to create a new student account by entering          |
     |               the required details such as ID, name, batch, section, blood group, gender, mobile number,          |
     |               and email.                                                                                          |
     |                                                                                                                   |
     |            2. Display All Students Information: You can view all the stored student information in a             |
     |               tabular format, displaying details such as ID, name, batch, section, blood group, contact           |
     |               number, and email.                                                                                  |
     |                                                                                                                   |
     |            3. Update Student Information: This option enables you to update student information based             |
     |               on the student's ID. You can choose the field you want to update, including ID, name,               |
     |               batch, section, blood group, contact number, or email.                                              |
     |                                                                                                                   |
     |            4. Delete Student Information: This option allows you to delete student information based on           |
     |               the student's ID. It confirms your choice before performing the deletion.                           |
     |                                                                                                                   |
     |            5. Search Student Information: You can search for student information based on different               |
     |               criteria, such as student ID, blood group, or batch. The system will display the relevant           |
     |               student details if they match the search criteria.                                                  |
     |                                                                                                                   |
     |            Additionally, the code includes a logo and an 'About' section that provides project information,       |
     |                    including the project name, submission details, and other relevant information.                |
     |-------------------------------------------------------------------------------------------------------------------|

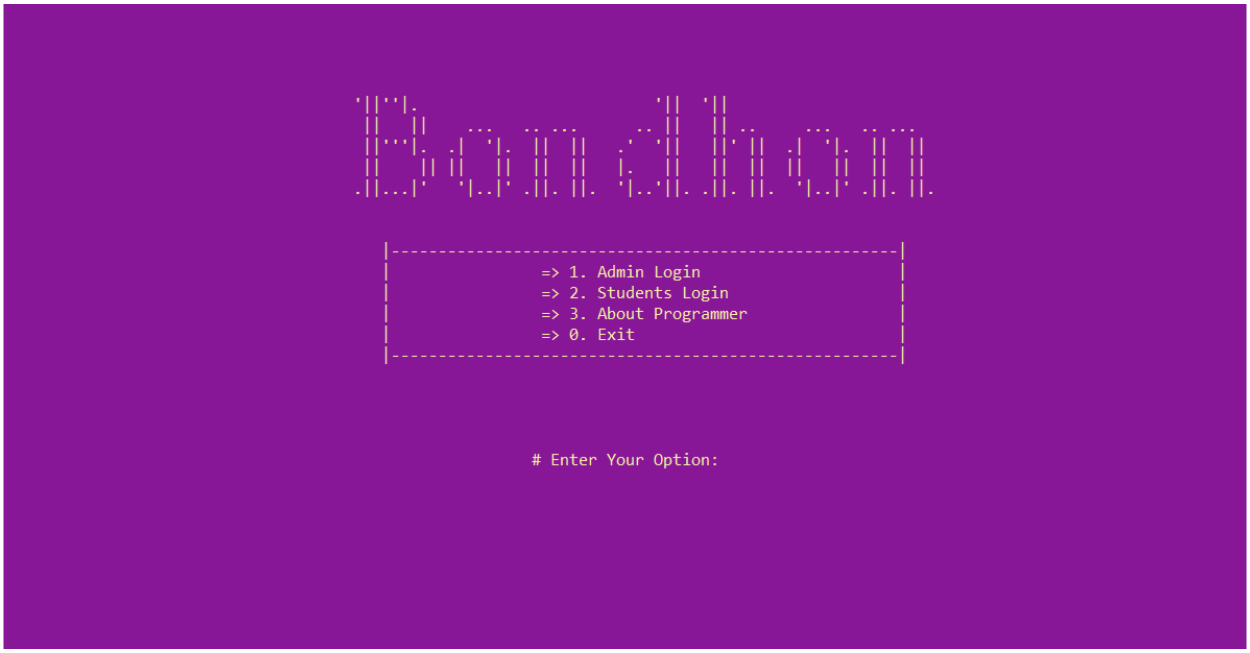

                                  Enter any keys to continue.......
```

=> 7. About: This part describes about the programmer who create the system.

=> *. Logout: Press ‘*’, admin logout the system and throughout system main page. Where admin can also access using user profile by using his/her user account.

=> 0. Exit: By press ‘0’ admin throughout the system.

Students



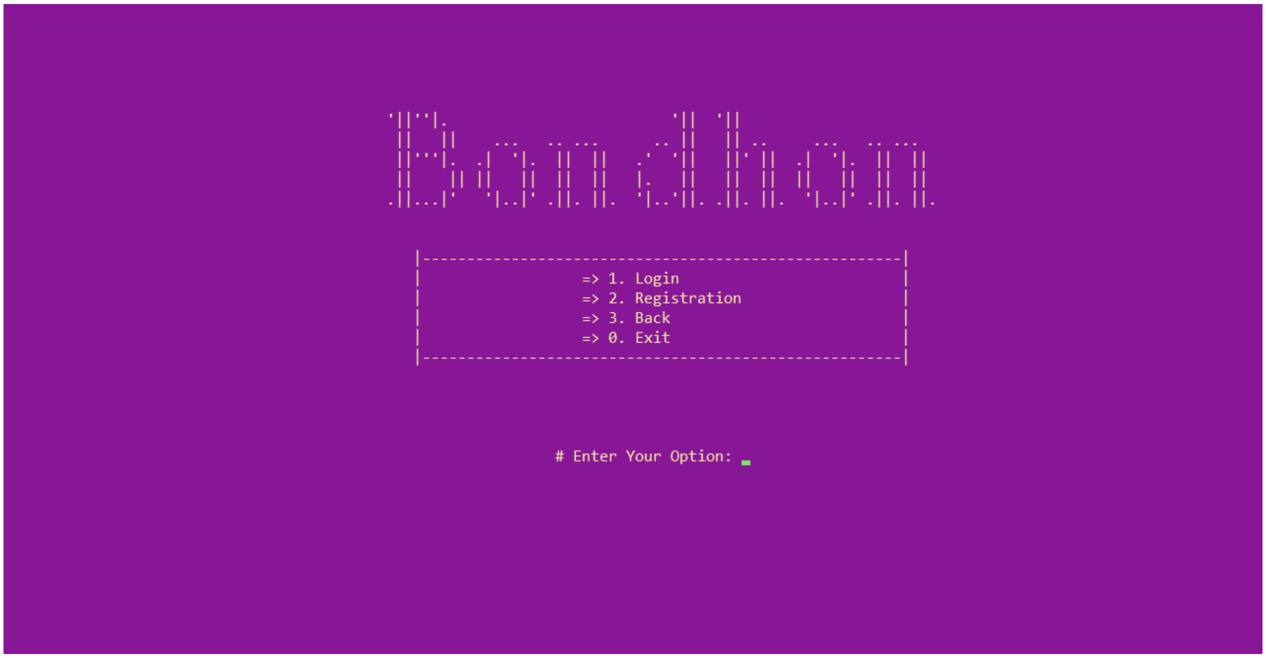
```
'||''|.                         '||  '||
 ||   ||    ...   .. ...      .. ||   || ..     ...   .. ...
 ||'''|.  .|  '|.  ||  ||   .'  '||   ||' ||  .|   '|. ||  ||
 ||    || ||   ||  ||  ||   |.   ||   ||  ||  ||   ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|' .||. ||.


   |------------------------------------------------------|
   |                => 1. Admin Login                     |
   |                => 2. Students Login                  |
   |                => 3. About Programmer                |
   |                => 0. Exit                            |
   |------------------------------------------------------|



                  # Enter Your Option:
```

If students want to go project user home page, then you have to login first as a user So that, press 2 for Students Login.



```
'||''|.                         '||  '||
 ||   ||    ...   .. ...      .. ||   || ..     ...   .. ...
 ||'''|.  .|  '|.  ||  ||   .'  '||   ||' ||  .|   '|. ||  ||
 ||    || ||   ||  ||  ||   |.   ||   ||  ||  ||   ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|' .||. ||.

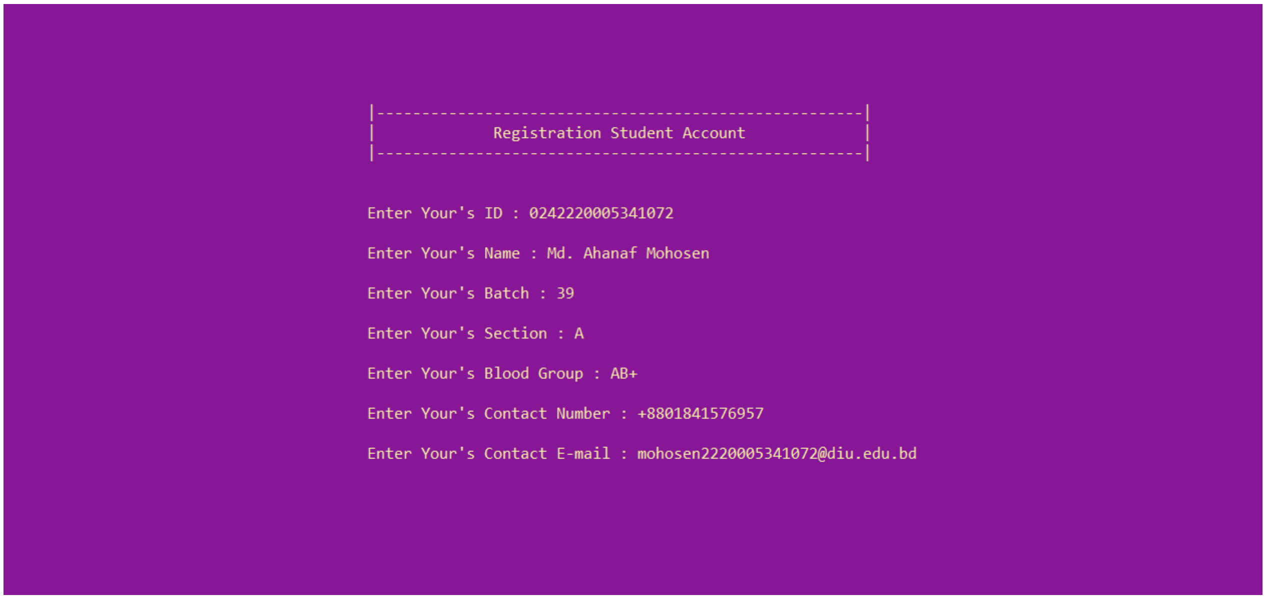

   |------------------------------------------------------|
   |                  => 1. Login                         |
   |                  => 2. Registration                  |
   |                  => 3. Back                          |
   |                  => 0. Exit                          |
   |------------------------------------------------------|



                  # Enter Your Option: _
```

If you new in this system then first you need to create a new account and then you can login in this system.

=> 2. Registration:



```
|-------------------------------------------------------|
|              Registration Student Account             |
|-------------------------------------------------------|


Enter Your's ID : 0242220005341072

Enter Your's Name : Md. Ahanaf Mohosen

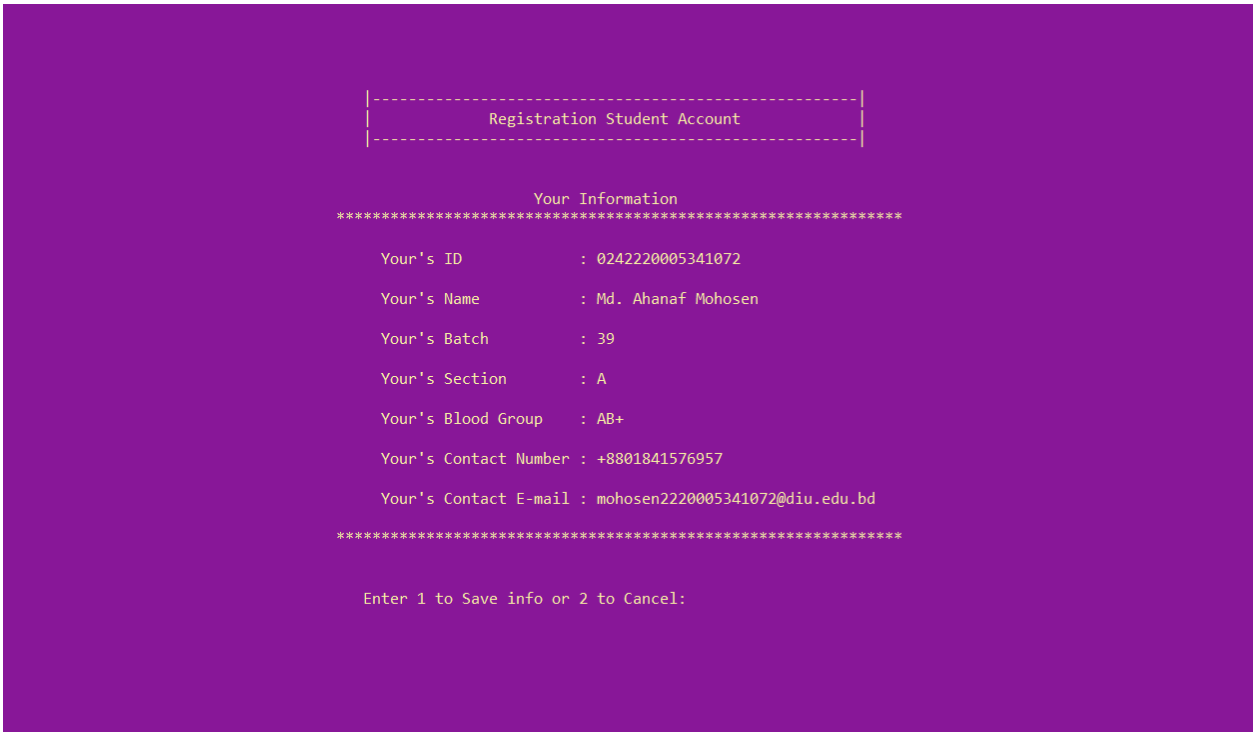
Enter Your's Batch : 39

Enter Your's Section : A

Enter Your's Blood Group : AB+

Enter Your's Contact Number : +8801841576957

Enter Your's Contact E-mail : mohosen2220005341072@diu.edu.bd
```



```
  |-------------------------------------------------------|
  |              Registration Student Account             |
  |-------------------------------------------------------|


                    Your Information
***************************************************************

     Your's ID            : 0242220005341072

     Your's Name          : Md. Ahanaf Mohosen

     Your's Batch         : 39

     Your's Section       : A

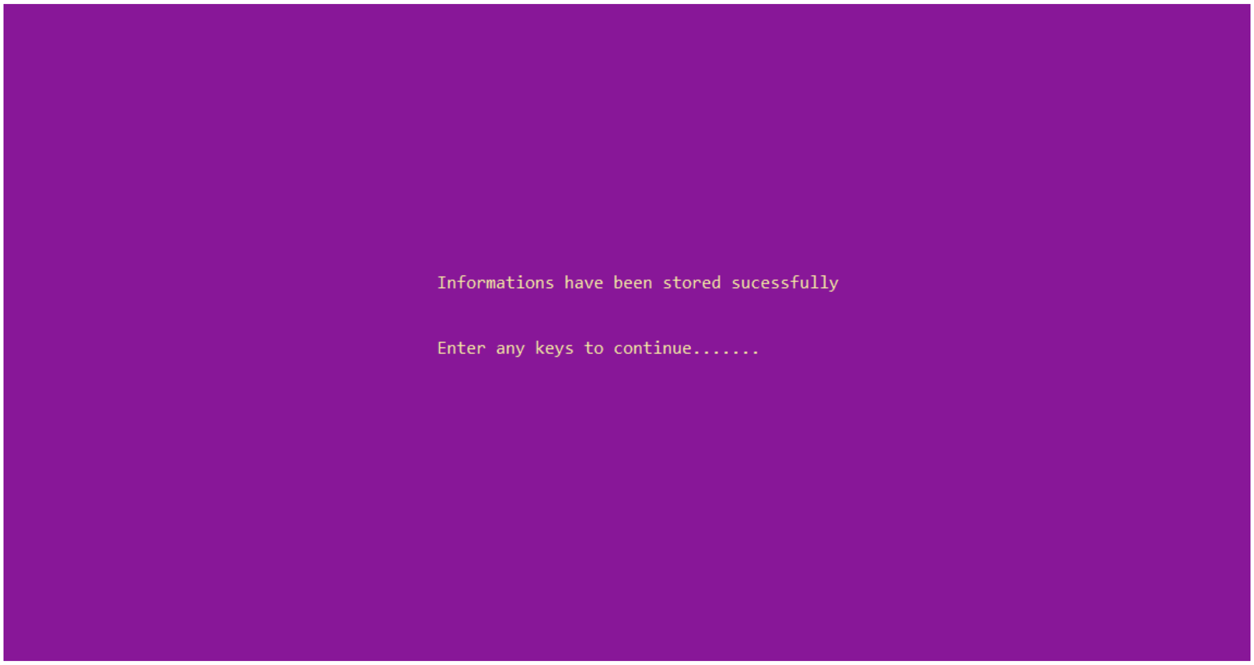
     Your's Blood Group   : AB+

     Your's Contact Number : +8801841576957

     Your's Contact E-mail : mohosen2220005341072@diu.edu.bd

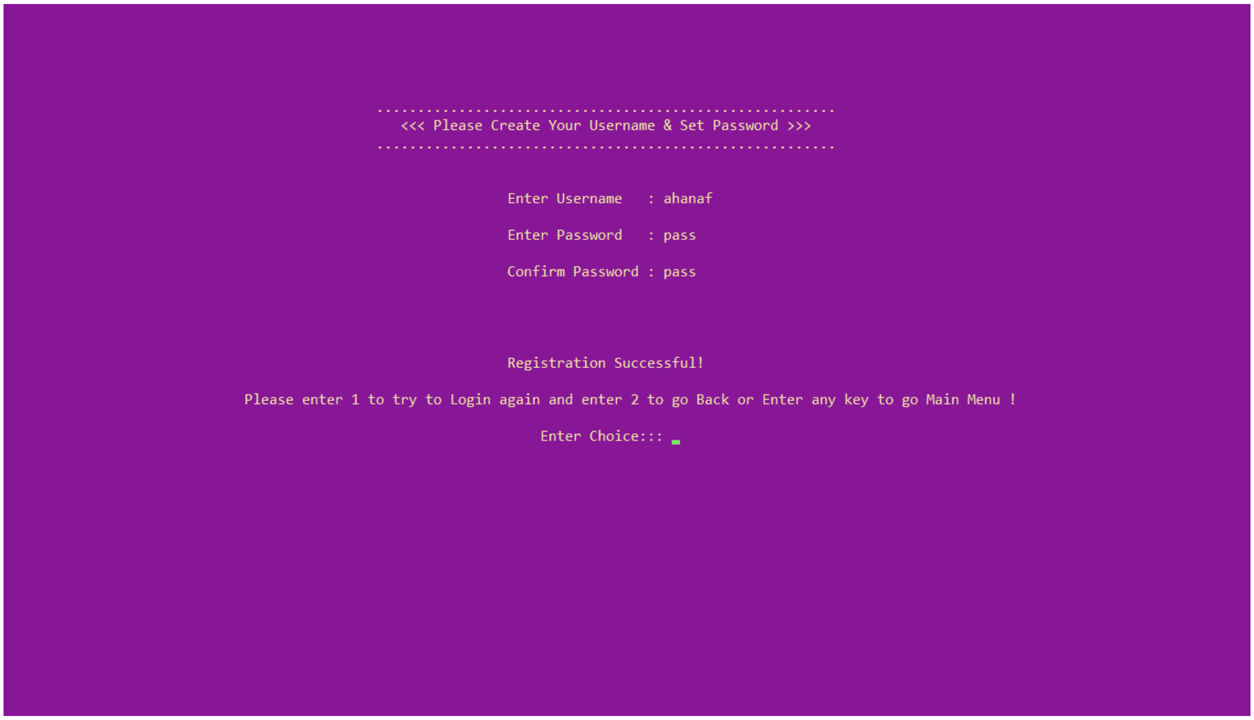
***************************************************************


   Enter 1 to Save info or 2 to Cancel:
```



```
Informations have been stored sucessfully

Enter any keys to continue.......
```



```
                ........................................................
                   <<< Please Create Your Username & Set Password >>>
                ........................................................

                                Enter Username   : ahanaf

                                Enter Password   : pass

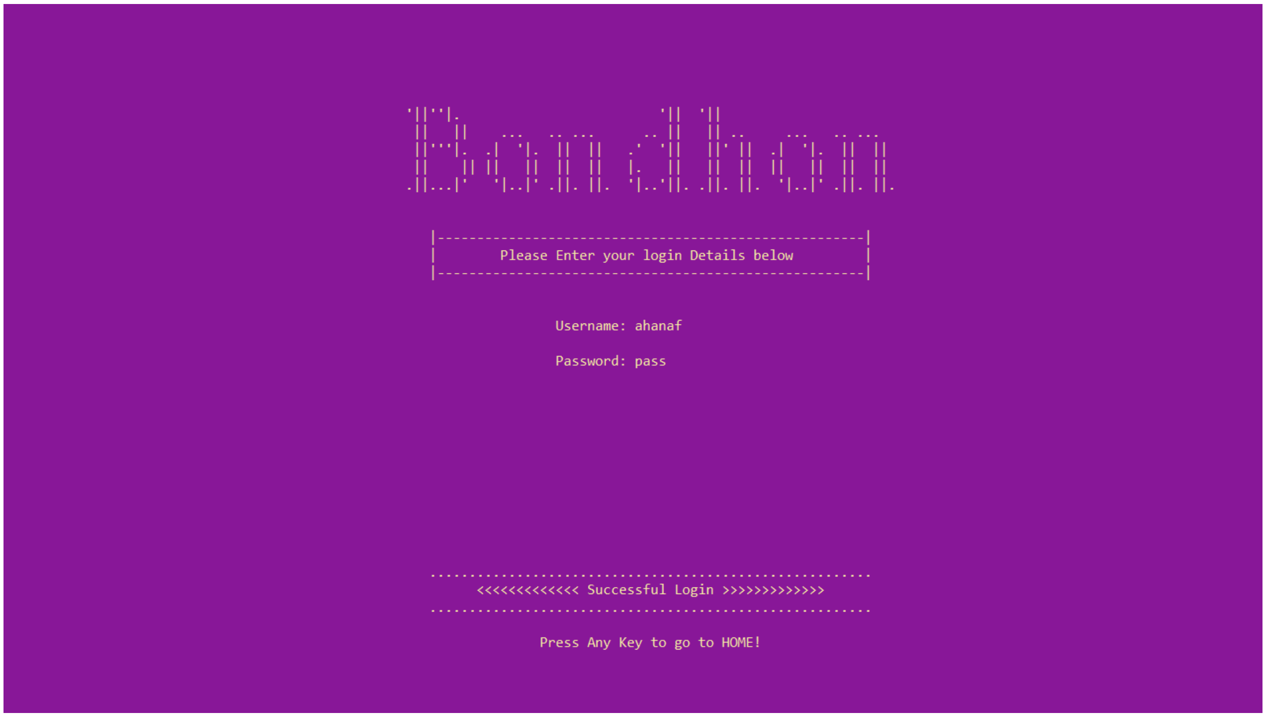
                                Confirm Password : pass


                                Registration Successful!

Please enter 1 to try to Login again and enter 2 to go Back or Enter any key to go Main Menu !

                                    Enter Choice::: 
```

=> 1. Login:



```
'||''|.                    '||  '||
 ||   ||   ...   .. ...    .. ||   || ..    ...   .. ...
 ||'''|.  .|  '|.  ||  ||  .'  '||   ||' ||  .|  '|.  ||  ||
 ||    || ||   ||  ||  ||  |.   ||   ||  ||  ||   ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|' .||. ||.

  |---------------------------------------------------|
  |          Please Enter your login Details below    |
  |---------------------------------------------------|

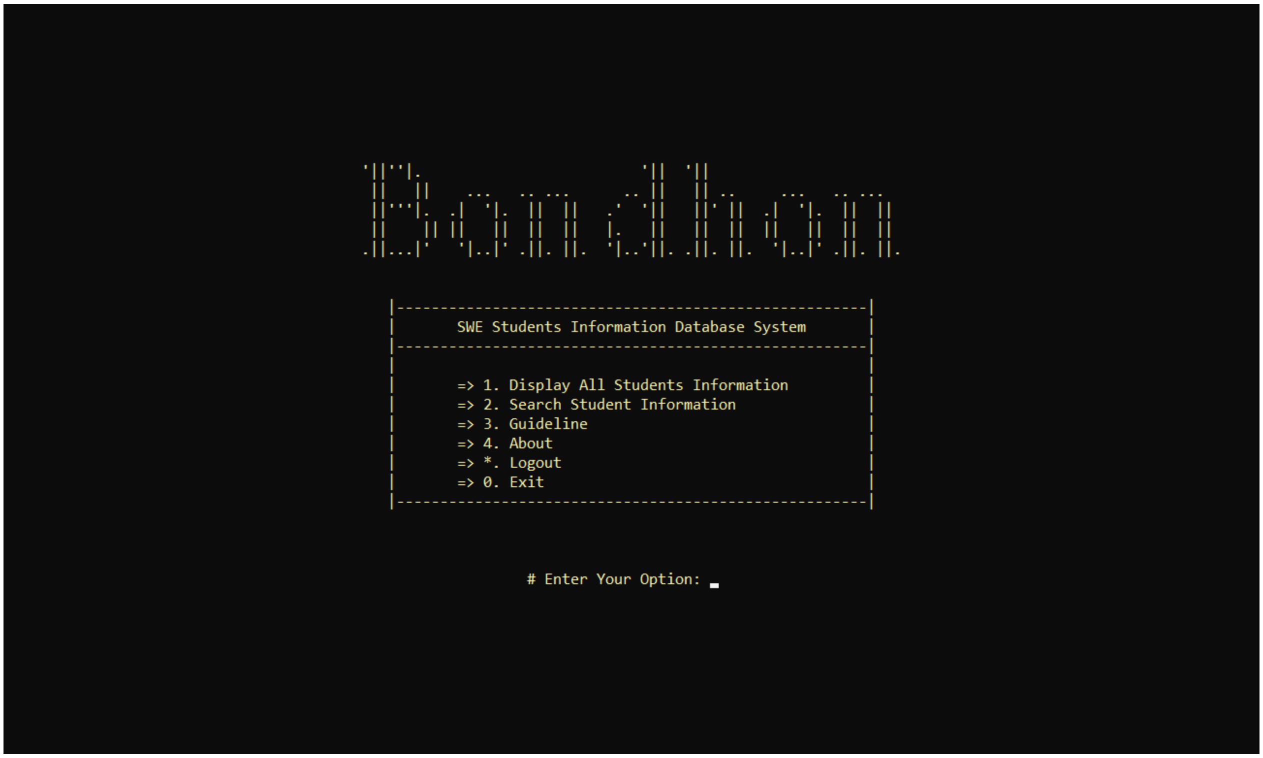
             Username: ahanaf

             Password: pass




  ..........................................................
       <<<<<<<<<<<<< Successful Login >>>>>>>>>>>>>
  ..........................................................

           Press Any Key to go to HOME!
```

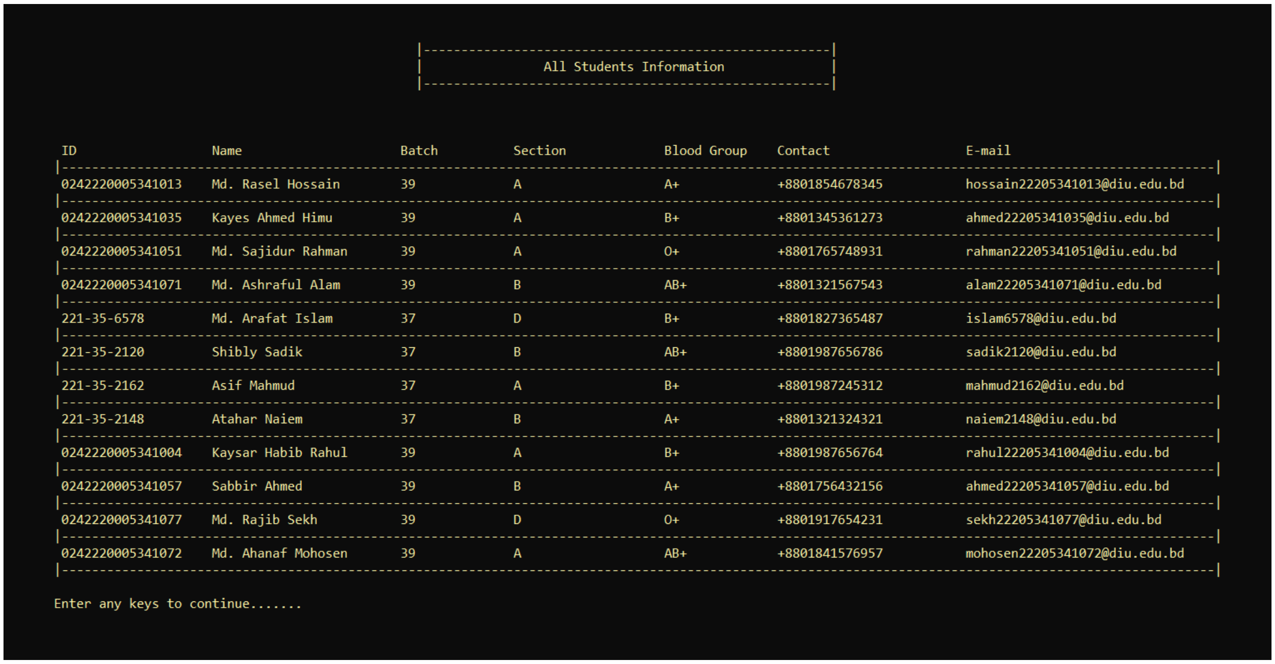


```
'||''|.                    '||  '||
 ||   ||   ...   .. ...    .. ||   || ..    ...   .. ...
 ||'''|.  .|  '|.  ||  ||  .'  '||   ||' ||  .|  '|.  ||  ||
 ||    || ||   ||  ||  ||  |.   ||   ||  ||  ||   ||  ||  ||
.||...|'   '|..|' .||. ||.  '|..'||. .||. ||.  '|..|' .||. ||.

  |-------------------------------------------------------|
  |       SWE Students Information Database System        |
  |-------------------------------------------------------|
  |                                                       |
  |       => 1. Display All Students Information          |
  |       => 2. Search Student Information                |
  |       => 3. Guideline                                 |
  |       => 4. About                                     |
  |       => *. Logout                                    |
  |       => 0. Exit                                      |
  |-------------------------------------------------------|


              # Enter Your Option: _
```

=> 1. Display All Students Information:



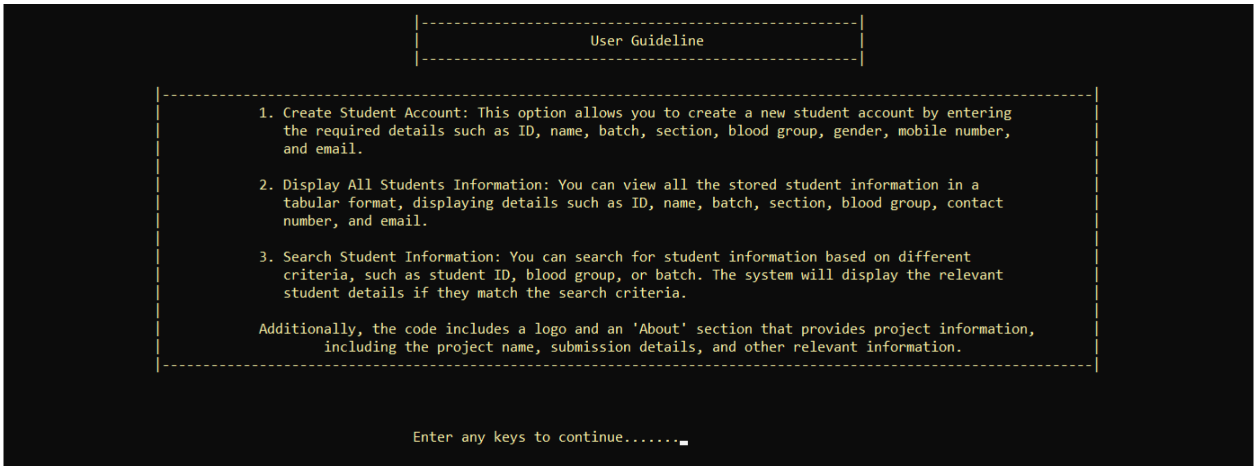
```
                                       |-------------------------------------------------------|
                                       |                All Students Information               |
                                       |-------------------------------------------------------|


 ID                  Name                     Batch          Section             Blood Group    Contact                  E-mail
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341013    Md. Rasel Hossain        39             A                   A+             +8801854678345           hossain22205341013@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341035    Kayes Ahmed Himu         39             A                   B+             +8801345361273           ahmed22205341035@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341051    Md. Sajidur Rahman       39             A                   O+             +8801765748931           rahman22205341051@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341071    Md. Ashraful Alam        39             B                   AB+            +8801321567543           alam22205341071@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 221-35-6578         Md. Arafat Islam         37             D                   B+             +8801827365487           islam6578@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 221-35-2120         Shibly Sadik             37             B                   AB+            +8801987656786           sadik2120@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 221-35-2162         Asif Mahmud              37             A                   B+             +8801987245312           mahmud2162@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 221-35-2148         Atahar Naiem             37             B                   A+             +8801321324321           naiem2148@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341004    Kaysar Habib Rahul       39             A                   B+             +8801987656764           rahul22205341004@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341057    Sabbir Ahmed             39             B                   A+             +8801756432156           ahmed22205341057@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341077    Md. Rajib Sekh           39             D                   O+             +8801917654231           sekh22205341077@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|
 0242220005341072    Md. Ahanaf Mohosen       39             A                   AB+            +8801841576957           mohosen22205341072@diu.edu.bd
|--------------------------------------------------------------------------------------------------------------------------------------------------|

Enter any keys to continue.......
```

=> 2. Search Student Information: Same as admin.

=> 3. Guideline: Same as admin.



```
                                          |-----------------------------------------------------------|
                                          |                      User Guideline                       |
                                          |-----------------------------------------------------------|

                   |-------------------------------------------------------------------------------------------------------------------------|
                   |             1. Create Student Account: This option allows you to create a new student account by entering               |
                   |                the required details such as ID, name, batch, section, blood group, gender, mobile number,               |
                   |                and email.                                                                                               |
                   |                                                                                                                         |
                   |             2. Display All Students Information: You can view all the stored student information in a                   |
                   |                tabular format, displaying details such as ID, name, batch, section, blood group, contact                |
                   |                number, and email.                                                                                       |
                   |                                                                                                                         |
                   |             3. Search Student Information: You can search for student information based on different                    |
                   |                criteria, such as student ID, blood group, or batch. The system will display the relevant                |
                   |                student details if they match the search criteria.                                                       |
                   |                                                                                                                         |
                   |             Additionally, the code includes a logo and an 'About' section that provides project information,            |
                   |                      including the project name, submission details, and other relevant information.                    |
                   |-------------------------------------------------------------------------------------------------------------------------|

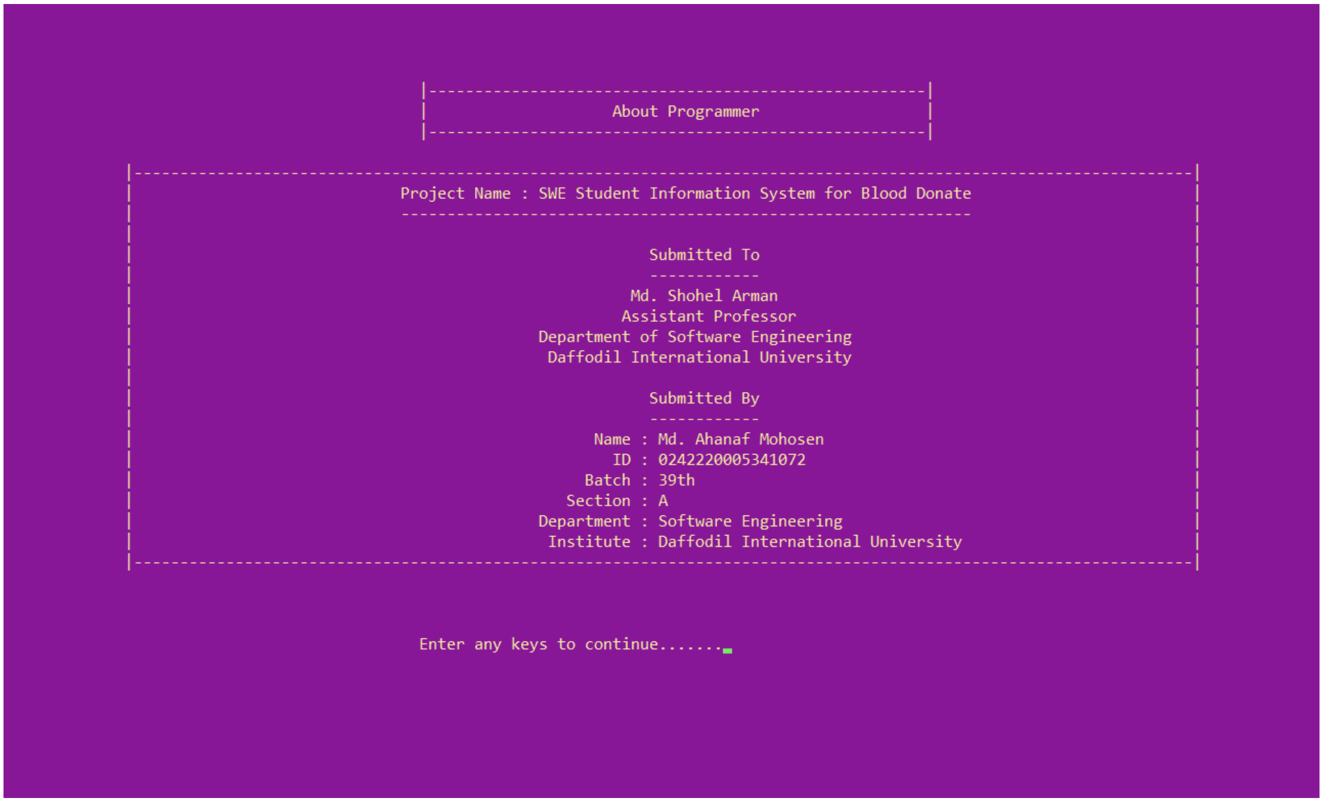

                                         Enter any keys to continue.......
```

=> 4. About: Same as admin.

=> *. Logout: Same as admin.

=> 0. Exit: Same as admin.

About Programmer



```
                                |------------------------------------------------------|
                                |                   About Programmer                   |
                                |------------------------------------------------------|

|-------------------------------------------------------------------------------------------------------------------|
|                            Project Name : SWE Student Information System for Blood Donate                         |
|                            --------------------------------------------------------------                         |
|                                                                                                                   |
|                                                       Submitted To                                                |
|                                                       ------------                                                |
|                                                     Md. Shohel Arman                                              |
|                                                    Assistant Professor                                            |
|                                           Department of Software Engineering                                      |
|                                            Daffodil International University                                      |
|                                                                                                                   |
|                                                       Submitted By                                                |
|                                                       ------------                                                |
|                                                 Name : Md. Ahanaf Mohosen                                         |
|                                                   ID : 0242220005341072                                           |
|                                                Batch : 39th                                                       |
|                                              Section : A                                                          |
|                                           Department : Software Engineering                                       |
|                                            Institute : Daffodil International University                          |
|-------------------------------------------------------------------------------------------------------------------|


                               Enter any keys to continue.......
```

DESIGN AND IMPLEMENTATION

Software language used

- C language

REQUIREMENT SPECIFICATION

Windows OS Xp, Windows Vista or Windows 7 to Windows 11. At least 2.0 GHz Processor speed, at least 40 GB Hard Disk Capacity and 512 RAM.

FILE MANAGEMENT

In my project I have used a lot of files to manage and store the data, I have created a separate file for every function I added to my project.

SYSTEM LOGIN

As already stated, to login into the system, one has to have a valid username and password. It has also been noted that there are absolutely different privileges for the admin and the students. Where students create their account, username and password.

At the first visit of the system, the admin interacts with the login page where he/she is required to provide a valid username and password in order to login. Once logged in, then the admin is allowed to perform activities such as create account, viewing details and update, delate registration as per the privileges.

USE CASE

Use Case	**Login**
Goal	To access home page with their own feature admin/student must first login their system.
Precondition	The system is running and accessible.
Success End Condition	The user is successfully authenticated, granting access to the system.
Failed End Condition	The user fails authentication, and access to the system is denied.
Primary Actors	Students
Secondary Actors	Admin
Description / Main success scenario	• The user/admin initiates the login process by launching the system. • The system presents the login screen. • The user provides valid credentials (username and password). • The system verifies the credentials. • If the credentials are valid, the system grants access and directs the user/admin to the corresponding dashboard. • If the credentials are invalid, an error message is displayed, and the user is prompted to re-enter the credentials.

Use Case	**Registration**
Goal	Register a New User in the System
Precondition	The system is running, and the user is not registered.
Success End Condition	The user is successfully registered in the system.
Failed End Condition	The registration process fails, and the user is not added to the system.
Primary Actors	Students
Secondary Actors	N/A
Description / Main success scenario	• The user initiates the registration process by selecting the registration option. • The system presents the registration form. • The user fills in the required information (ID, name, batch, section, blood group, gender, mobile number, email, etc.). • The system validates the entered information. • If the information is valid, the system adds the user to the system and provides a success message. • If the information is invalid or incomplete, the system prompts the user to correct the errors. • The registered user can now use the provided credentials to log in to the system.

Use Case	**Update Information**
Goal	Update User Information in the System
Precondition	The admin is logged into the system.
Success End Condition	The user's information is successfully updated in the system.
Failed End Condition	The update process fails, and the admin's information remains unchanged.
Primary Actors	N/A
Secondary Actors	Admin
Description / Main success scenario	• The admin initiates the update process by selecting the option to update information. • The system give permission admin to retrieves the user's current information and presents it for editing. • The user modifies the desired fields (ID, name, batch, section, blood group, contact number, email, etc.). • The system validates the updated information. • If the information is valid, the system updates the user's details and provides a success message. • If the information is invalid or incomplete, the system prompts the user to correct the errors. • The updated information is now reflected in the system.

Use Case	**Delete Information**
Goal	Delete User Information in the System
Precondition	The admin is logged into the system.
Success End Condition	The user's information is successfully deleted from the system.
Failed End Condition	The deletion process fails, and the user's information remains unchanged.
Primary Actors	N/A
Secondary Actors	Admin
Description / Main success scenario	• The admin initiates the delete process by selecting the option to delete information. • The system prompts the admin to enter the ID of the student whose information is to be deleted. • The admin enters the student ID. • The system retrieves the student's information based on the provided ID and displays it for confirmation • The user confirms the deletion. • The system deletes the student's information from the system and provides a success message. • If the admin chooses not to delete, the process is canceled, and the information remains unchanged. • The deleted information is no longer available in the system.

Use Case	**Display Information**
Goal	Display Student Information.
Precondition	The admin is logged into the system.
Success End Condition	The system successfully displays the requested student information.
Failed End Condition	The system fails to display the information.
Primary Actors	Students
Secondary Actors	Admin
Description / Main success scenario	• The user/admin selects the option to display information. • The system presents a menu with different display options (e.g., display all, display by ID, display by batch). • The user chooses the desired display option. • The system retrieves and displays the relevant student information based on the chosen option. • The displayed information includes student ID, name, batch, section, blood group, contact number, and email. • The user/admin can view the information and, if needed, go back to the main menu. • If the system fails to retrieve or display the information, an error message is shown. • The displayed information is read-only, and the user cannot modify it through this use case but admin can change any information.

Use Case	**Search Information**
Goal	Search Student Information using students’ id number, blood group or batch number.
Precondition	The admin is logged into the system.
Success End Condition	The system successfully displays the requested student information.
Failed End Condition	The system fails to find and display the information.
Primary Actors	Students
Secondary Actors	Admin
Description / Main success scenario	• The user/admin selects the option to search for student information. • The system presents a menu with different search criteria (e.g., search by ID, search by batch, search by blood group). • The user/admin chooses the desired search criterion. • The system prompts the user/admin to enter the relevant information (e.g., student ID, batch, blood group). • The user/admin enters the required information. • The system searches the database for matching student information based on the entered criteria. • If matching information is found, the system displays the student details, including ID, name, batch, section, blood group, contact number, and email. • If no matching information is found, the system notifies the user that the student information is not available. • The user/admin can choose to perform another search or go back to the main menu. • If there are errors during the search process, an error message is displayed.

CONCLUSION AND RECOMENDATION

In summary, the SWE Student Information System for Blood Donation presents a well-structured and effective solution for managing student information. The system's capabilities in user registration, data storage, and retrieval demonstrate its practical utility. The user-friendly interface contributes to a positive user experience, facilitating smooth navigation and interaction with the system.

Recommendations:

1. **Security Enhancement:** Strengthen security protocols to safeguard sensitive student information. Consider encryption and secure authentication methods to prevent unauthorized access.
2. **User Authentication:** Implement a secure and reliable user authentication system to ensure that only authorized personnel can access and modify student data.
3. **Reporting Features:** Explore the possibility of incorporating reporting features to provide administrators with valuable insights into student demographics, trends, and other relevant data.
4. **User Interface Improvements:** Continuously refine the user interface based on user feedback to enhance usability and overall user satisfaction.
5. **Scalability Consideration:** Evaluate the system's scalability to accommodate potential growth in data and user base. Ensure that the system can handle increased load and maintain performance.
6. **Documentation:** Maintain comprehensive documentation, including user guides and technical documentation, to assist both end-users and developers in understanding and utilizing the system effectively.
7. **Regular Updates and Maintenance:** Plan for regular updates and maintenance to address any emerging issues, incorporate new features, and adapt to evolving requirements. This ensures the system remains current and aligned with user needs.

The SWE Student Information System for Blood Donation, with these considerations, is poised to be a valuable asset for educational institutions, providing efficient student data management and contributing to the overall effectiveness of administrative processes.

RECOMMENDATIONS FOR FUTURE WORKS

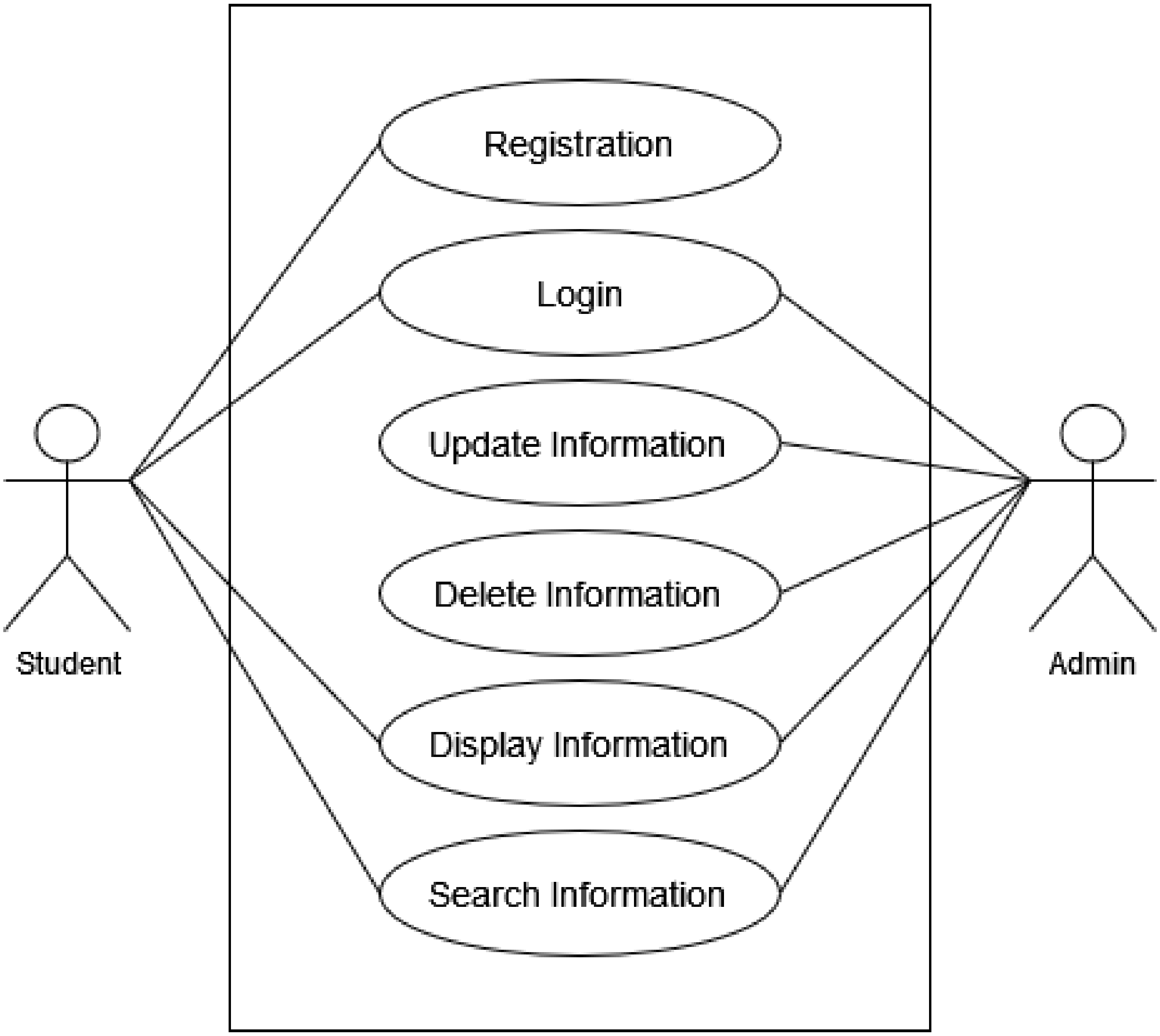
Alhamdulillah finally I have successfully completed my project, I have a lot of aspects in future plan now this is only software but I want to convert it in a real and working project also I want make a new design for my project so it will look more attractive in addition to that I am going to add extra features in the project and it will be more helpful and effective.
Also, currently I have implemented this project using c language but I want to implement it a more and better language to enhance the efficiency of the project.

1. In this Project are some Fault. In future I customized all the problems.
2. It’s not an Online Based Project. But in future I will try to online based project.

REFERENCES

1. Teach you r self C by Herbert Schildt
2. Data structure with C by Seymour Lipschutz

USE CASE DIAGRAM


Registration
Login
Update Information
Delete Information
Display Information
Search Information
Student
Admin