

Job Seekers and Talent Acquisition

UCS2201 – Fundamentals and Practice of Software Development

A PROJECT REPORT

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BONAFIDE CERTIFICATE

Certified that this project report titled “**Job Seekers and Talent Acquisition**” is the bonafide work of Vijay Srinivas K (3122225001158), Vishal Sairam (3122225001163), Tarun R (3122225001148) who carried out the project work in the UCS2201 – Fundamentals and Practice of Software Development during the academic year 2022-23.

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ABSTRACT

The "Job Seekers and Talent Acquisition" project aims to develop a platform using the C programming language and leverage the power of Google Forms and Google Apps Script to facilitate the connection between job seekers and potential employers. The platform focuses on providing an efficient and interactive experience for job seekers to explore job opportunities and manage their profiles.

To gather data from users, Google Forms is utilized as a user-friendly interface for capturing information such as personal details, work experience, skills, and preferences. Job seekers can fill out the form with their relevant information, and the responses are automatically recorded in a Google Sheets spreadsheet.

Google Apps Script, a scripting platform provided by Google, is employed to process the form spreadsheet, and convert it into a CSV (Comma-Separated Values) file. Apps Script allows for automation and customization of Google Workspace products, enabling the extraction and transformation of data from the Google Sheets spreadsheet.

Once processed by Apps Script, the resulting CSV file is stored in Google Drive, providing a centralized and secure location for the data. The CSV format is commonly used for data interchange and can be easily imported into other applications or used for further data analysis.

By combining the capabilities of Google Forms, Google Apps Script, and the C programming language, the project creates an integrated system that seamlessly captures user data through Google Forms, processes it using Apps Script, and utilizes the C programming language to implement the job seekers and talent acquisition platform.

This document provides a comprehensive overview of the technologies used in the development and implementation of the platform. It discusses the utilization of Google Forms to capture user data and the role of Google Apps Script in processing the form responses into a CSV file stored in Google Drive. Additionally, it highlights the usage of the C programming language to create an efficient and interactive job

seekers and talent acquisition platform. Readers will gain valuable insights into the integration of Google Forms, Apps Script, and C programming for building a successful platform connecting job seekers and employers.

INTRODUCTION

1.1 INTRODUCTION

The project "Job Seekers and Talent Acquisition" aims to transform the recruitment process by providing a platform that addresses the challenges faced by job seekers and employers in today's competitive job market. With the increasing complexity of talent acquisition, finding the right candidate or job opportunity has become a time-consuming and overwhelming task. This project aims to simplify and streamline the process by offering a centralized platform that connects job seekers and employers.

The platform caters to the needs of both job seekers and employers. Job seekers can create personalized profiles and search for relevant job listings based on their skills and preferences. On the other hand, employers can create company profiles, post job vacancies, and efficiently manage the recruitment cycle.

The project incorporates algorithms and intelligent matching to enhance efficiency. Intelligent algorithms recommend the most suitable candidates based on job requirements, saving time and effort for employers.

Overall, the "Job Seekers and Talent Acquisition" project aims to simplify and optimize the recruitment process. By providing a centralized platform for job seekers and employers, it streamlines communication, enhances matching accuracy, and promotes data-driven decision-making. This project holds the potential to transform the way talent is acquired, benefiting both job seekers and employers in their quest to find the perfect match.

1.2 PROBLEM STATEMENT

Develop a platform that connects job seekers with relevant job positions and helps talent acquisition managers find suitable applicants. Constraints are defined for each job seeker and job position, and recommendations are made based on the degree of constraint satisfaction. The recommendation percentage is calculated by weighting and scoring the satisfying constraints compared to all available constraints.

1.3 EXTENDED EXPLORATION OF PROBLEM STATEMENT

1. User Profiles: The platform needs to allow job seekers to create detailed profiles that include their skills, qualifications, work experience, education, and any other relevant information. This will enable the platform to match job seekers with suitable job positions based on their profiles. Additionally, talent acquisition managers should have the ability to create profiles for their companies or organizations.

2. Job Listings: The platform should provide a comprehensive database of job listings from various companies and organizations. These listings should include information about the job title, required qualifications, experience level, location, and any other specific requirements. Job seekers should be able to search and filter these listings based on their preferences and receive notifications about new job openings that match their profiles.

3. Matching Algorithm: To facilitate effective matches between job seekers and job positions, a robust matching algorithm should be implemented. This algorithm should take into account various factors such as skills, qualifications, experience, location, and preferences of both job seekers and talent acquisition managers. The algorithm should prioritize the most relevant and compatible matches, improving the chances of successful recruitment.

4. **Feedback and Reviews:** Job seekers should have the opportunity to provide feedback and reviews about their experiences with the platform and specific companies or organizations. This feedback can help improve the platform's functionality and assist other job seekers in making informed decisions about potential job opportunities. Similarly, talent acquisition managers should be able to rate and provide feedback on applicants they have interacted with.

5. **Privacy and Security:** Given the sensitivity of personal information shared on such platforms, robust privacy and security measures should be in place. This includes secure user authentication, data encryption, and adherence to privacy regulations like GDPR. The platform should also provide options for users to control the visibility of their information and manage their privacy settings.

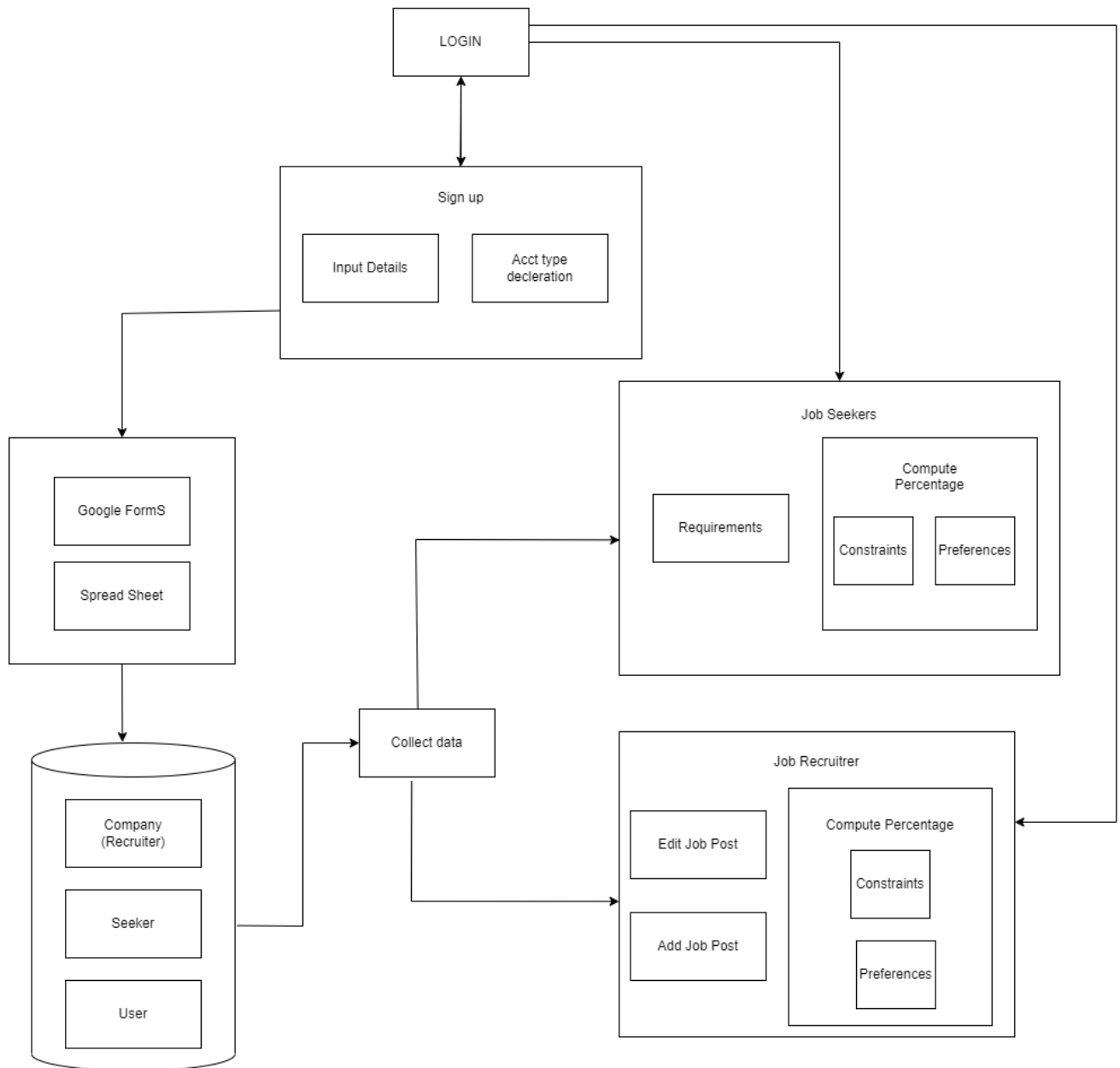
6. **Continuous Improvement:** To ensure the platform remains effective and relevant, regular updates and improvements should be made based on user feedback and changing industry dynamics. This can include adding new features, enhancing the matching algorithm, improving user experience, and staying up to date with emerging job market trends.

1.4 ASSUMPTIONS

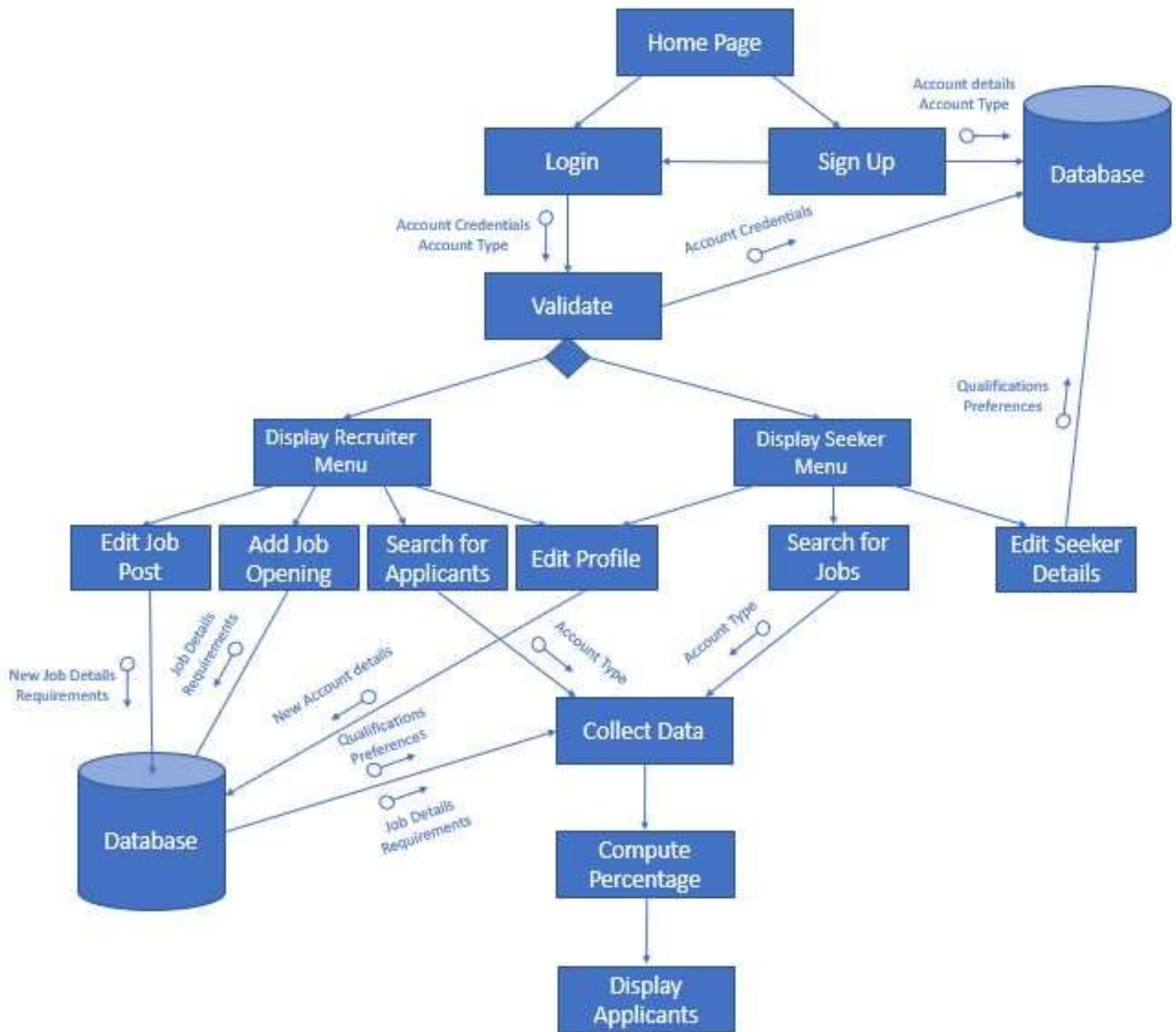
- The maximum number of records for both seekers and recruiters are set as 1000.
- Preferences are absolute i.e., Preference options are simply “Always, Often, Rarely and Never”, rather than a range from 1 to 10.
- The user will provide valid inputs for the various parameters present in the working of the system.

DESIGN ANALYSIS

2.1 ARCHITECTURE DIAGRAM



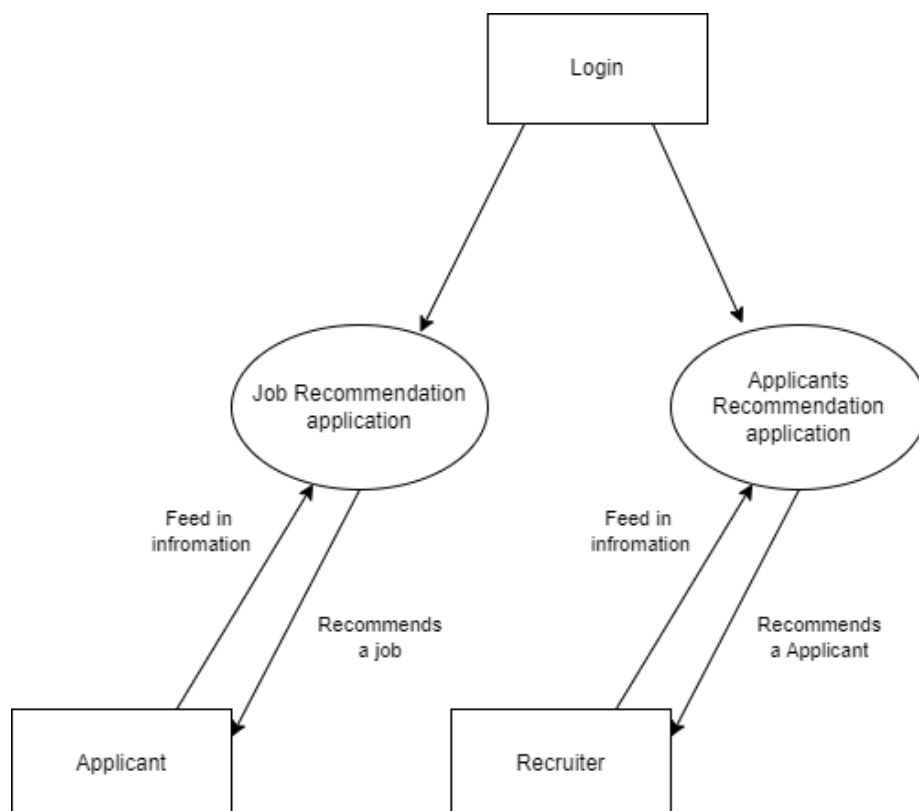
2.2 STRUCTURE CHART



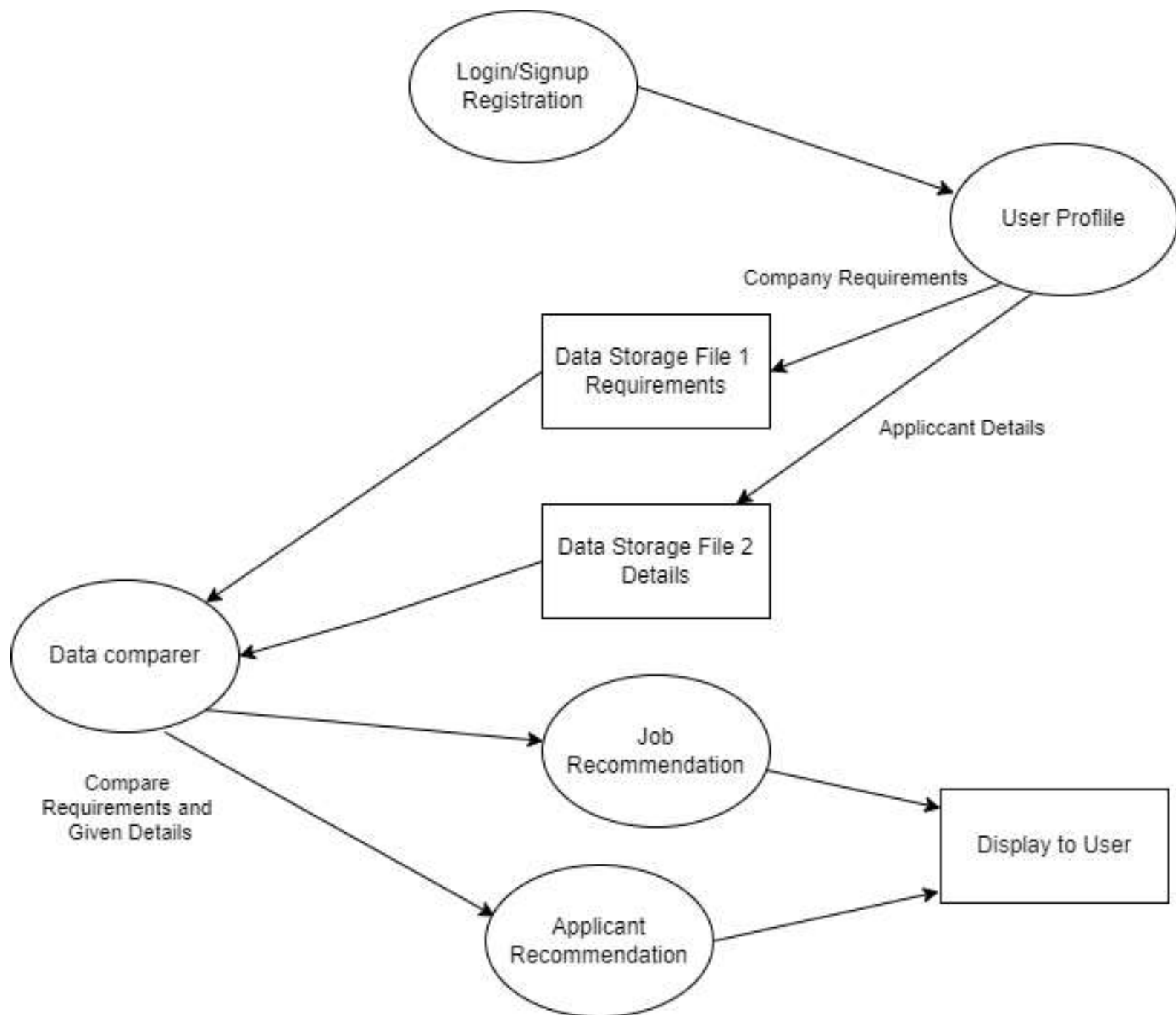
2.3 DATA FLOW DIAGRAM

Data Flow Diagrams show the flow of data from external entities into the system, and from one process to another within the system. There are four symbols for drawing a DFD. Rectangles representing external entities, which are sources or destinations of data. Ellipses representing processes, which take data as input, validate and process it and output it. Arrows representing the data flows, which can either, be electronic data or physical items. Open-ended rectangles or a Disk symbol representing data stores, including electronic stores such as databases or XML files and physical stores such as filing cabinets or stacks of paper. Figures below are the Data Flow Diagrams for the current system. Each process within the system is first shown as a Context Level DFD and later as a Detailed DFD. The Context Level DFD provides a conceptual view of the process and its surrounding input, output and data stores. The Detailed DFD provides a more detailed and comprehensive view of the interaction among the sub processes within the system.

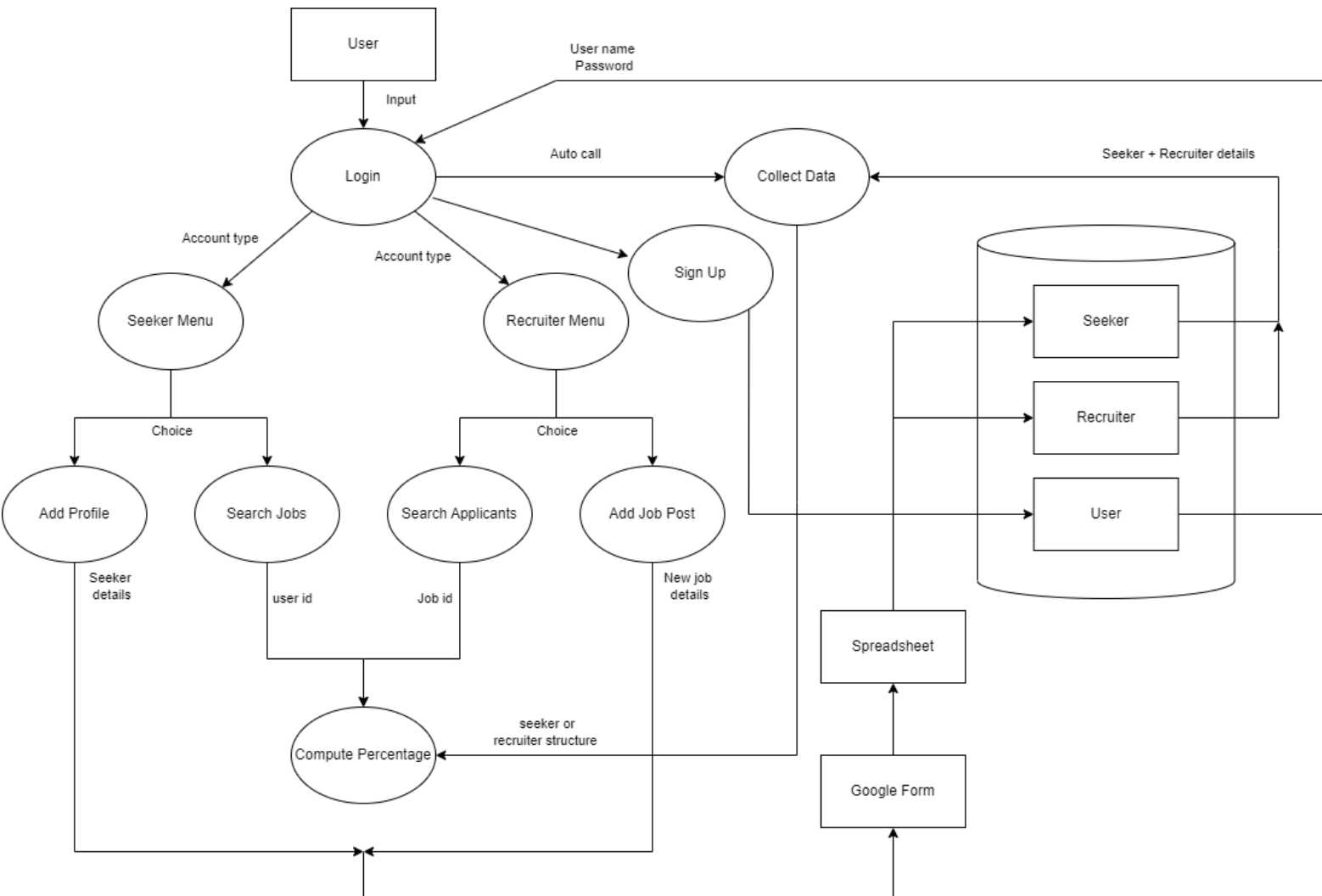
2.3.1 LEVEL 0 DFD



2.3.2 LEVEL 1 DFD

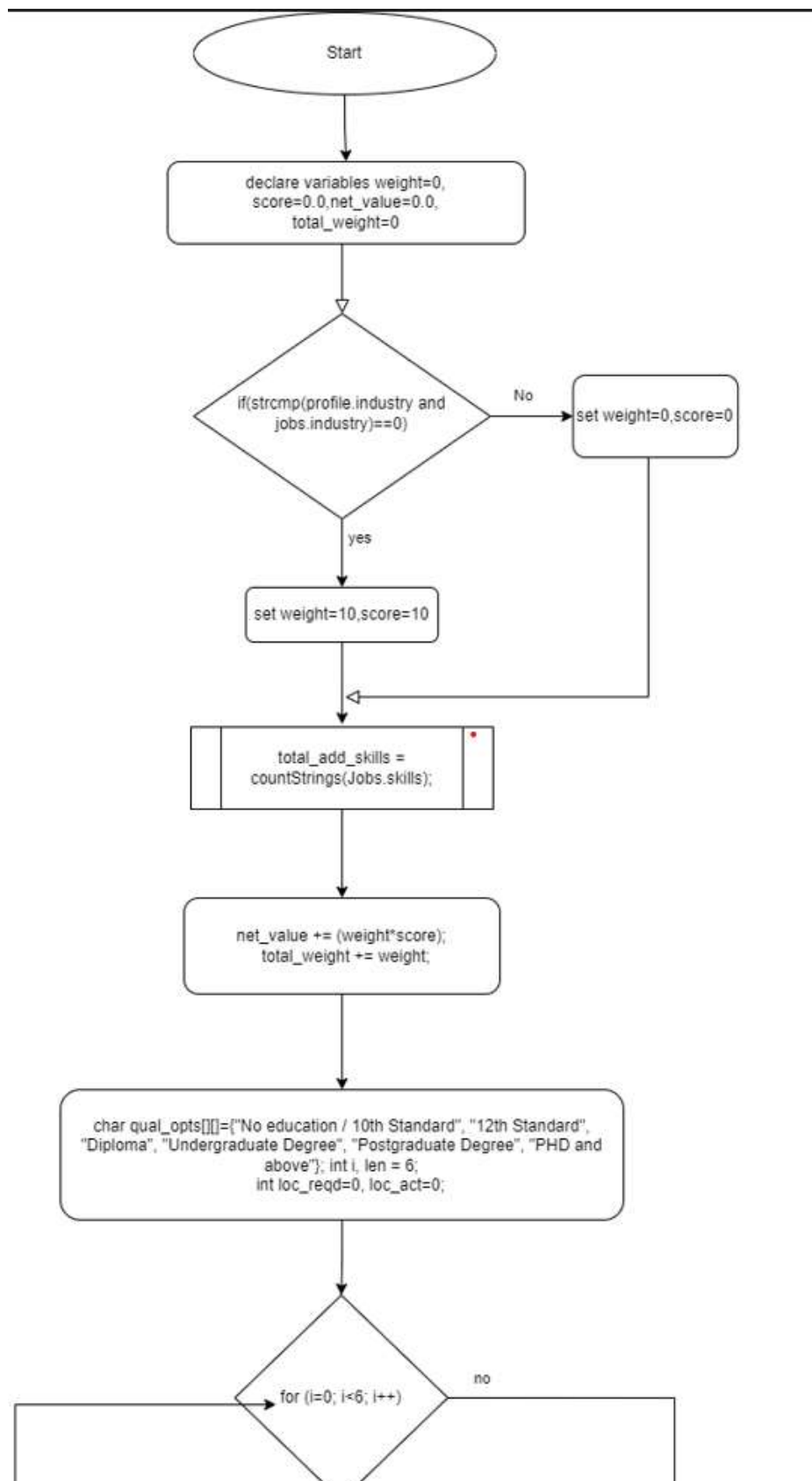


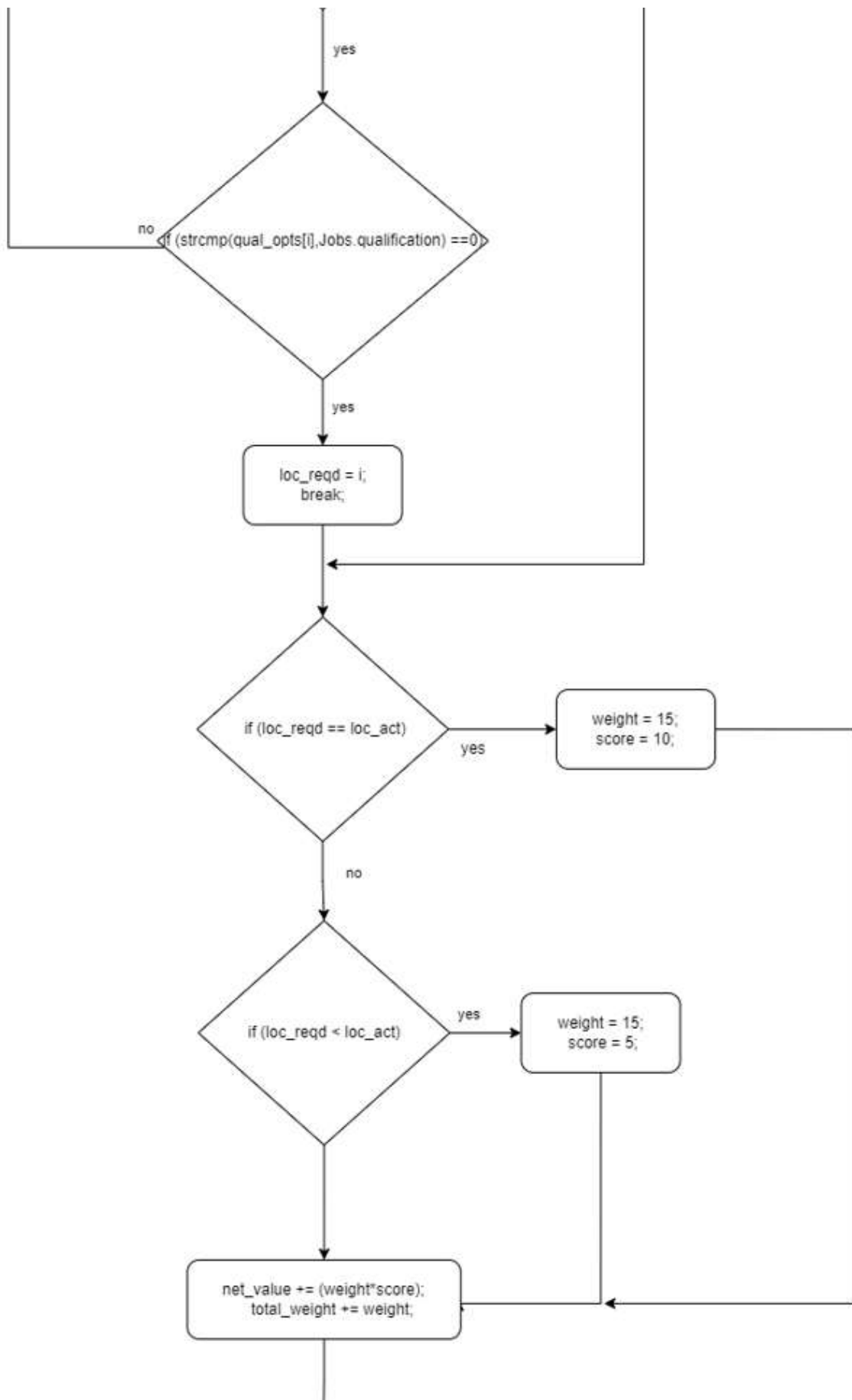
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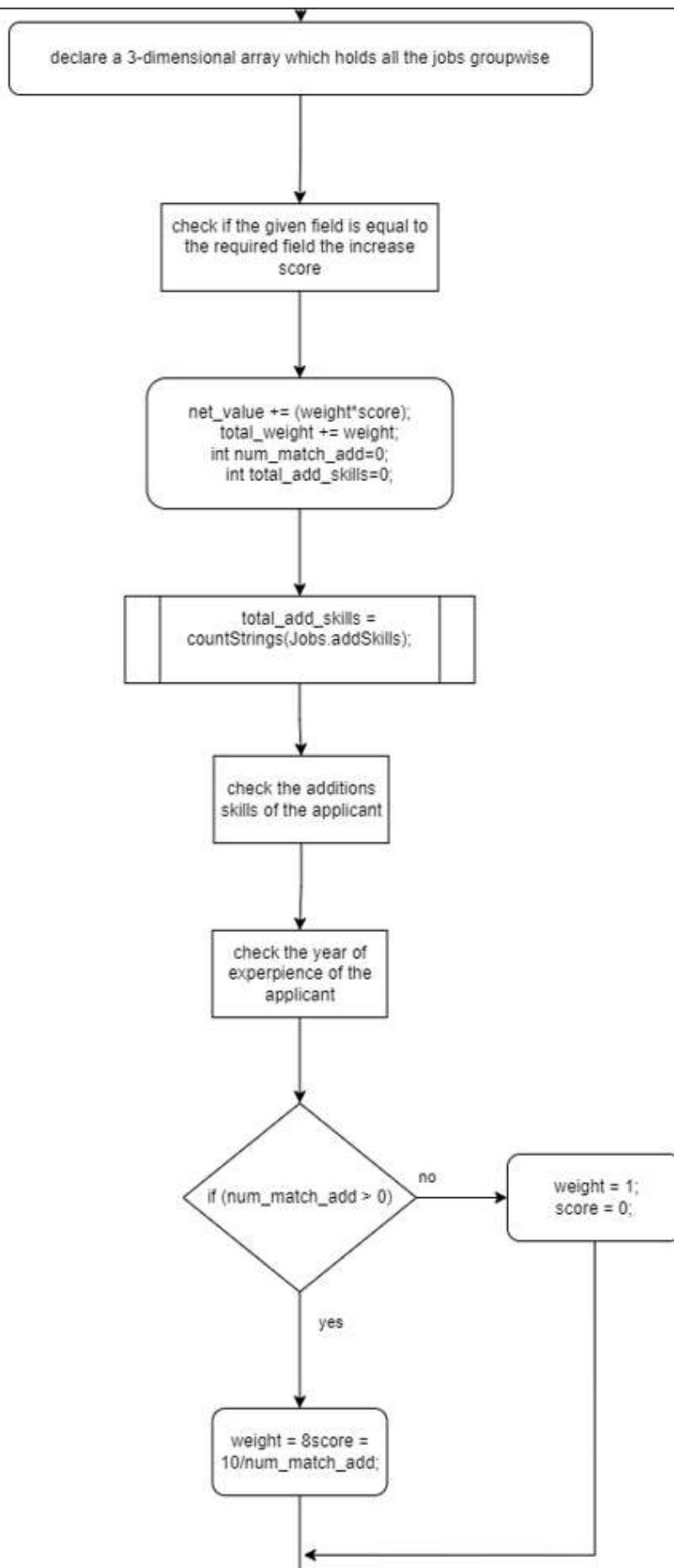


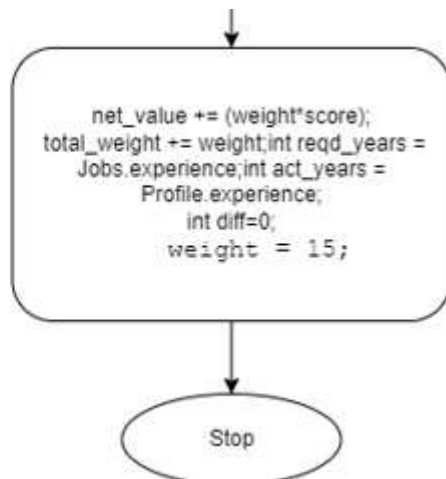
2.4 FLOWCHART

2.4.1 COMPUTE PERCENTAGE

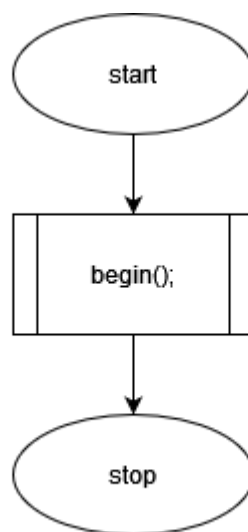


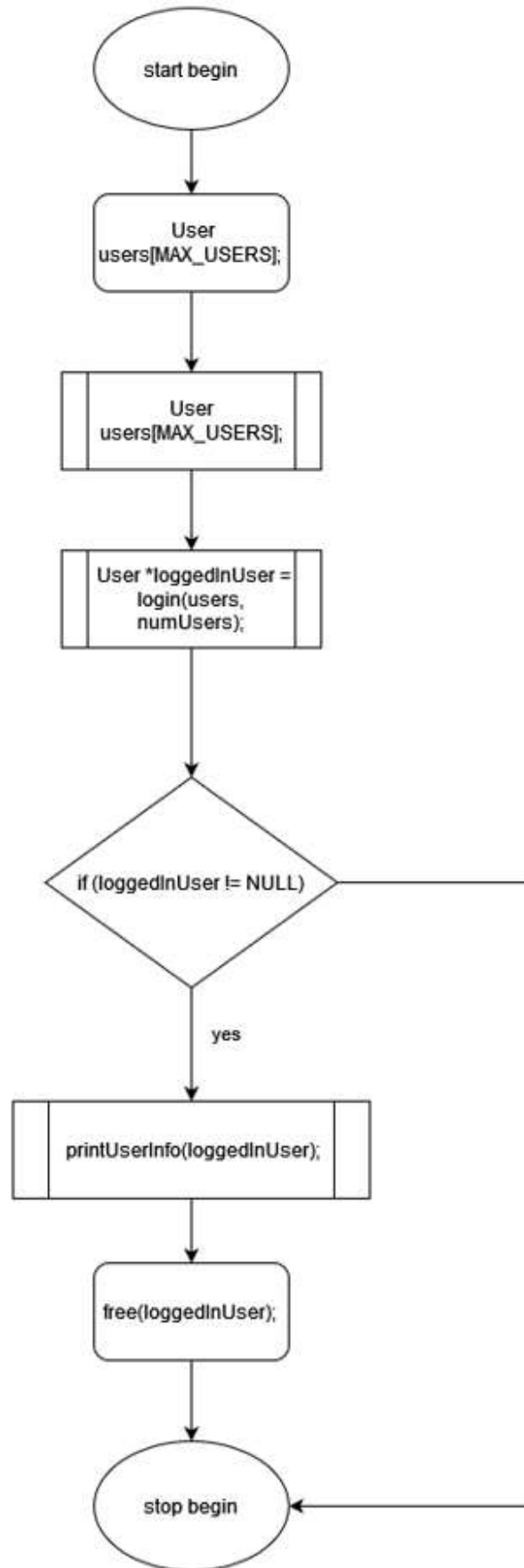


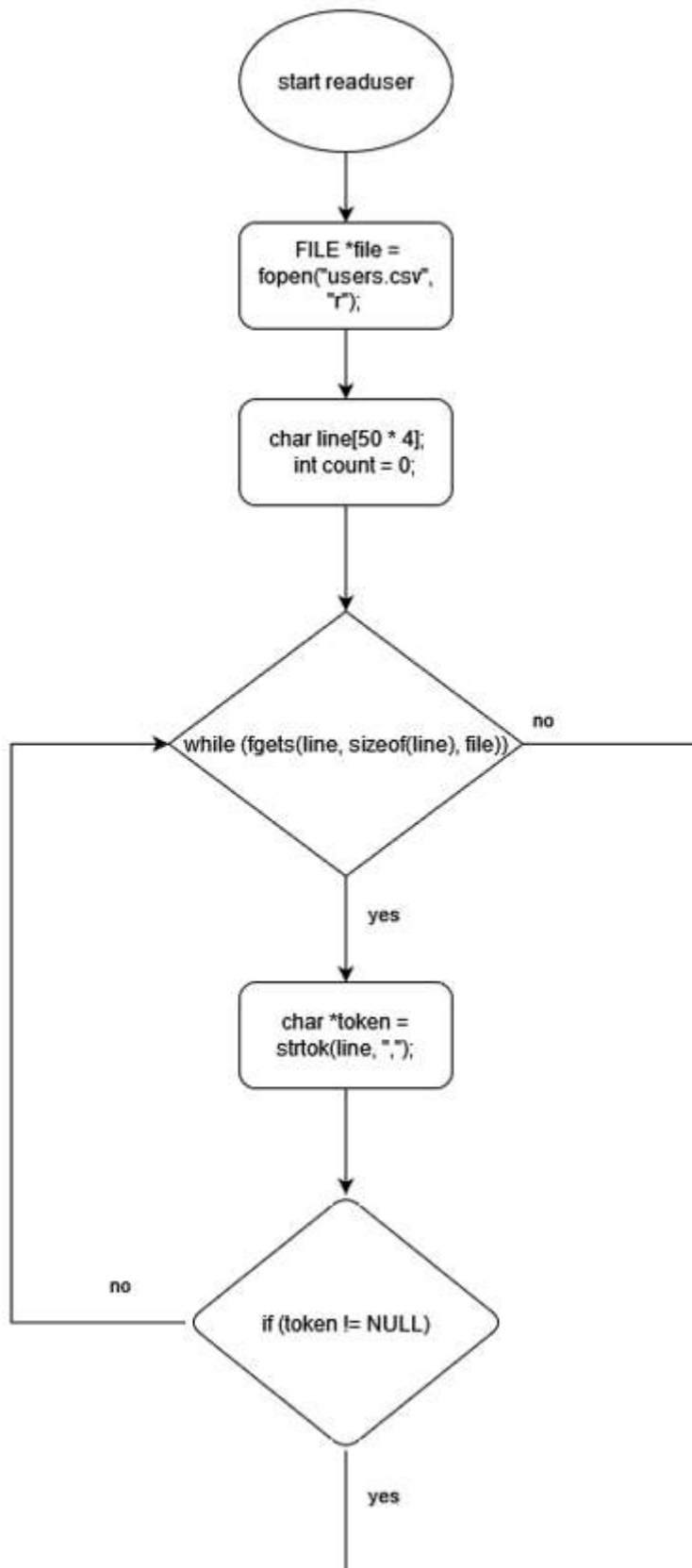


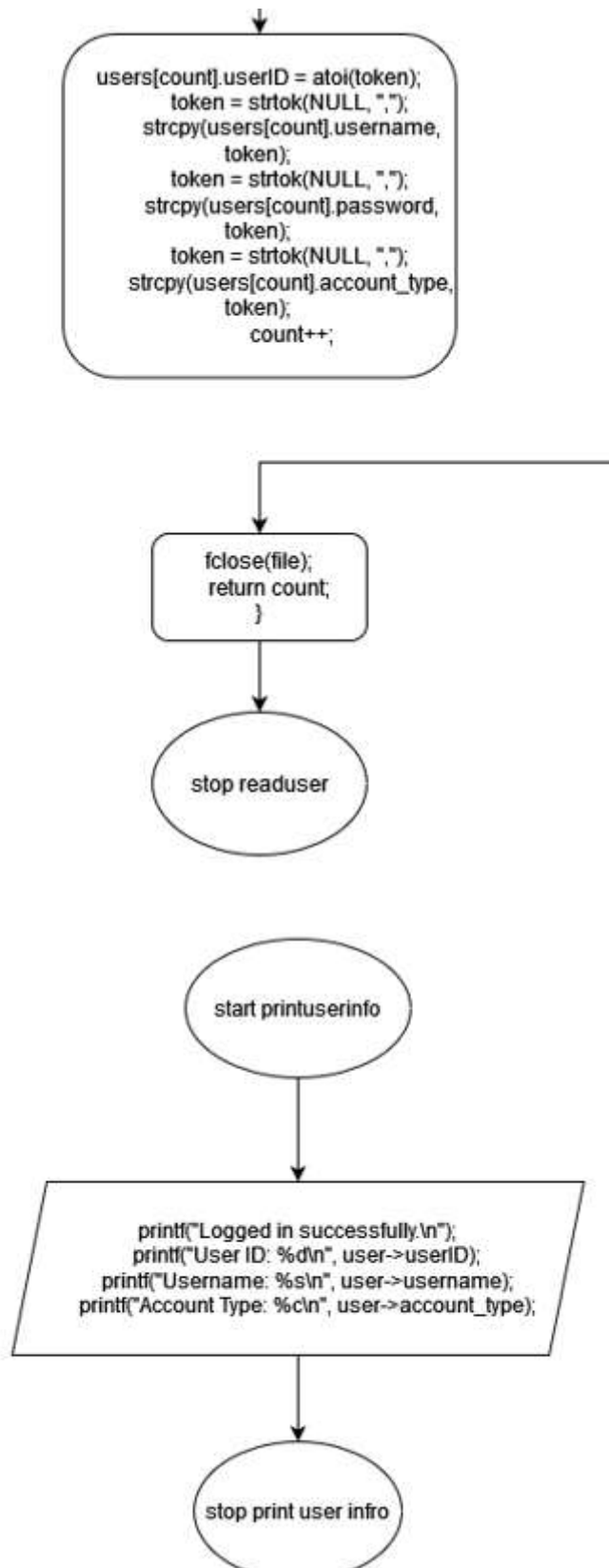


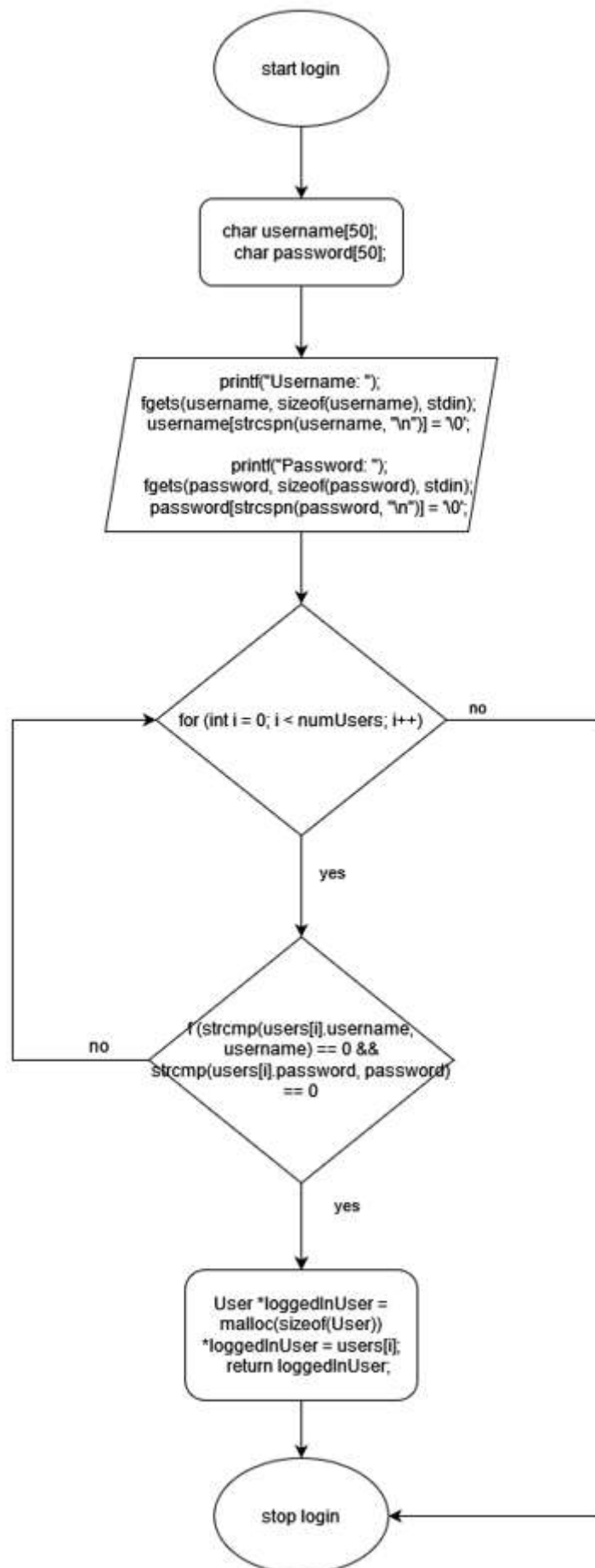
2.4.2 LOGIN



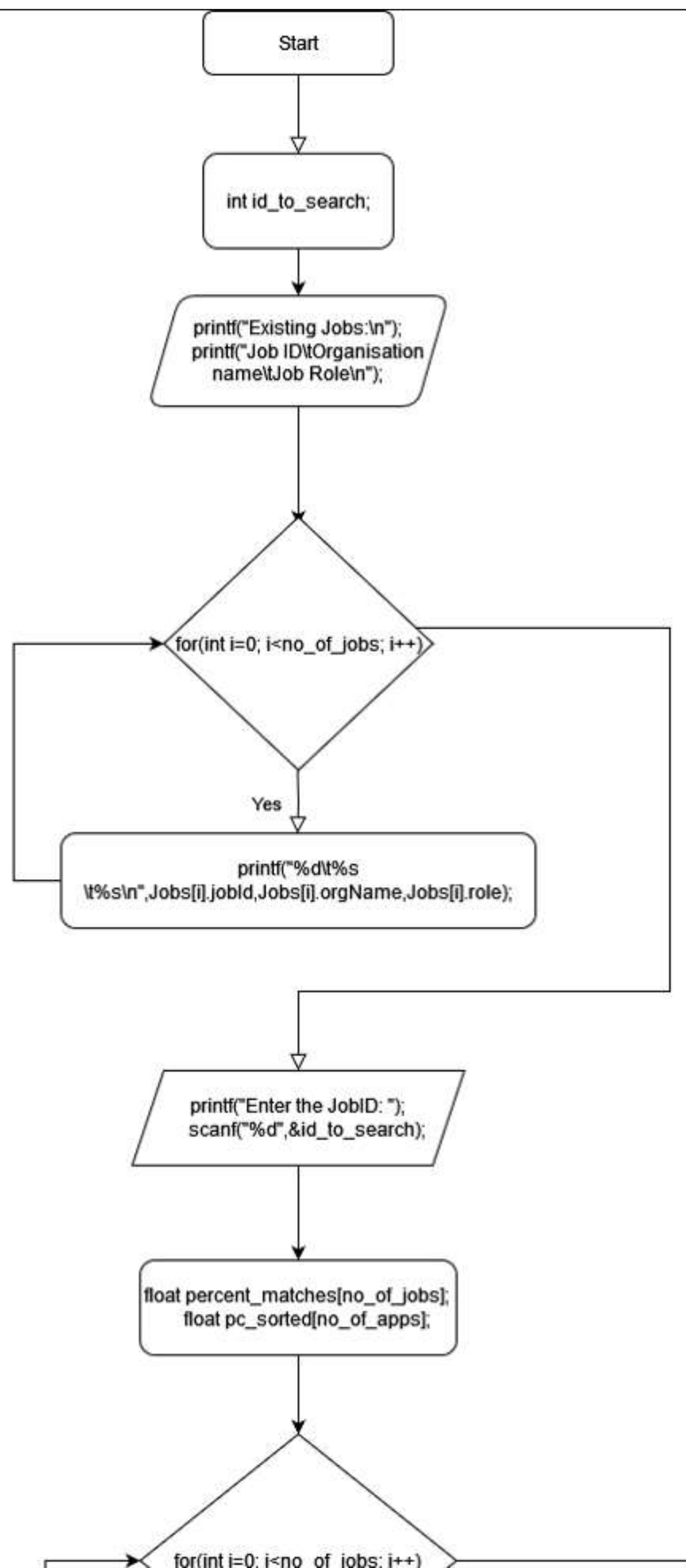


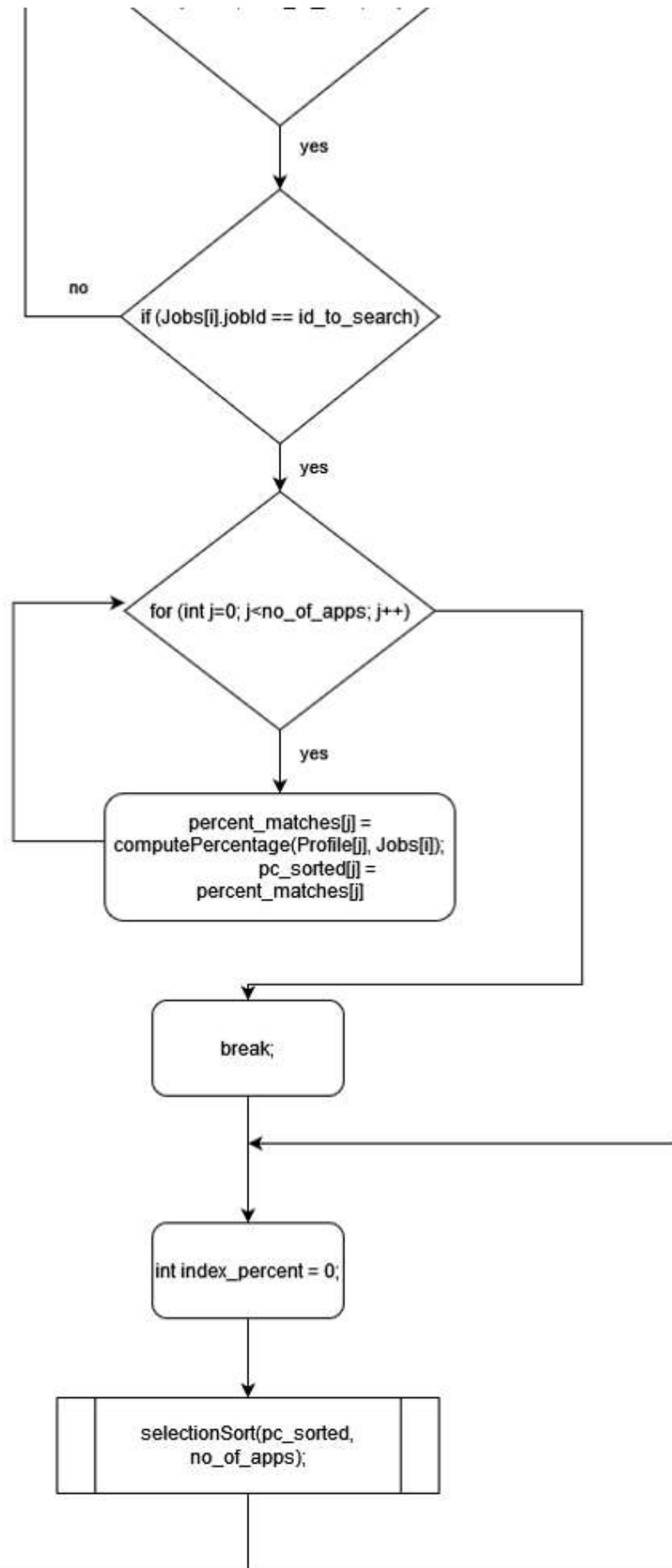


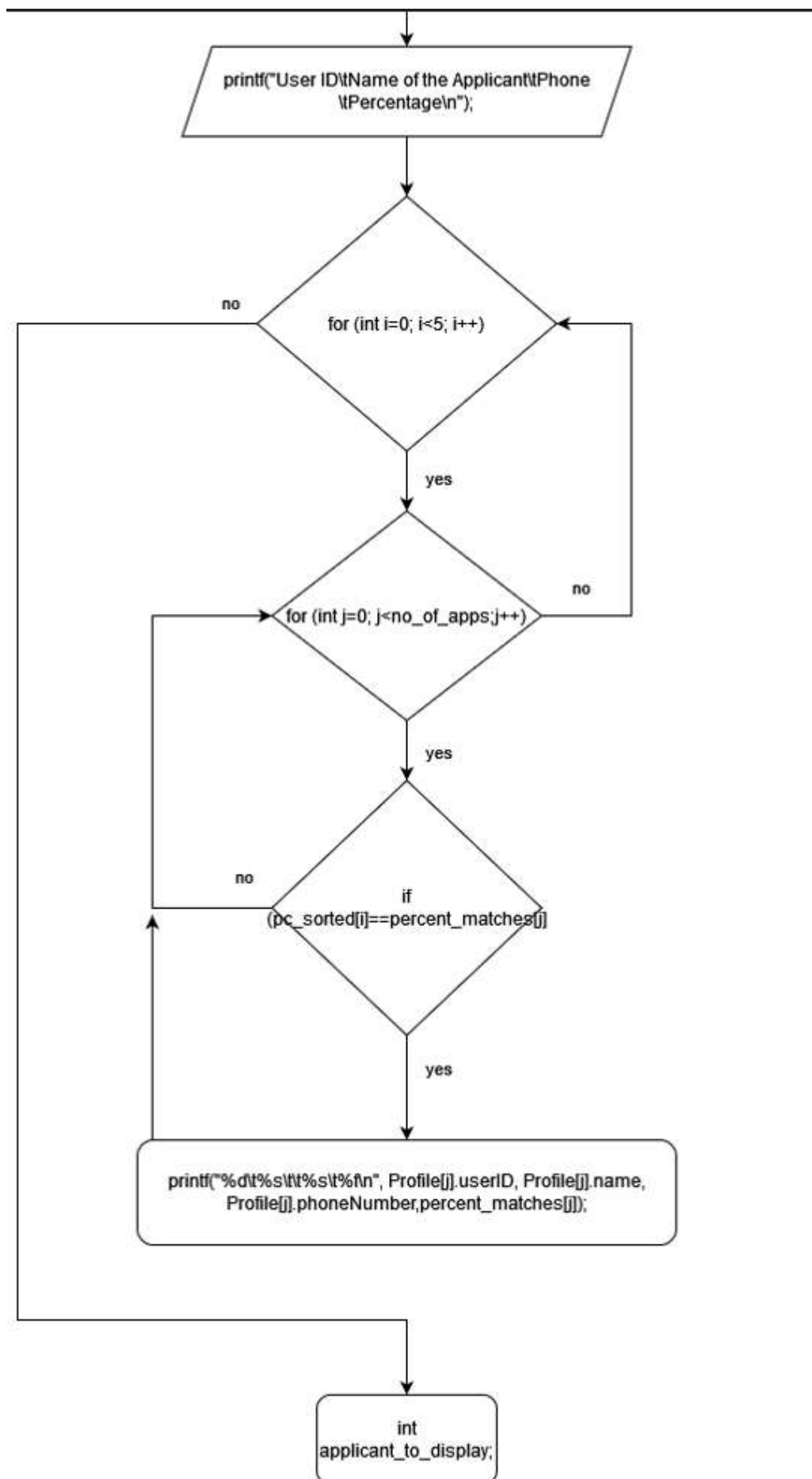


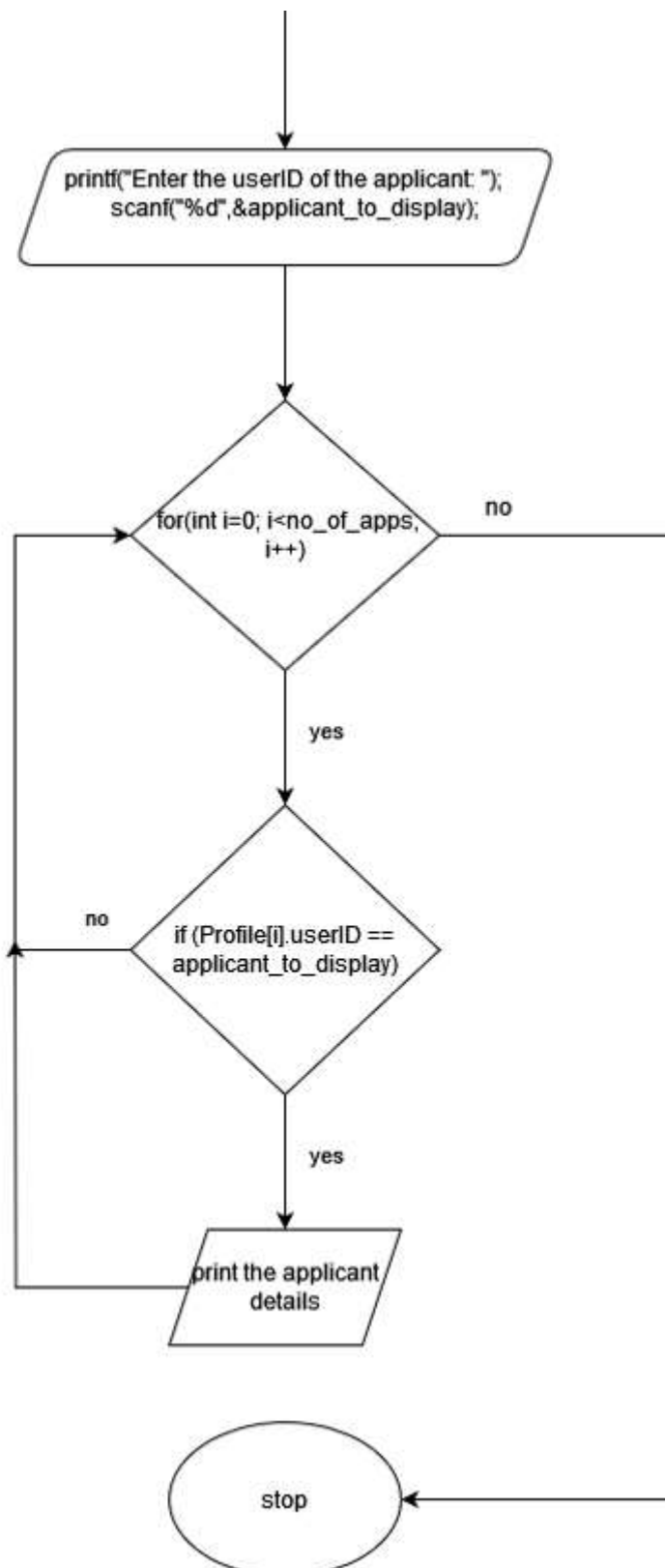


2.4.3 SEARCH JOBS

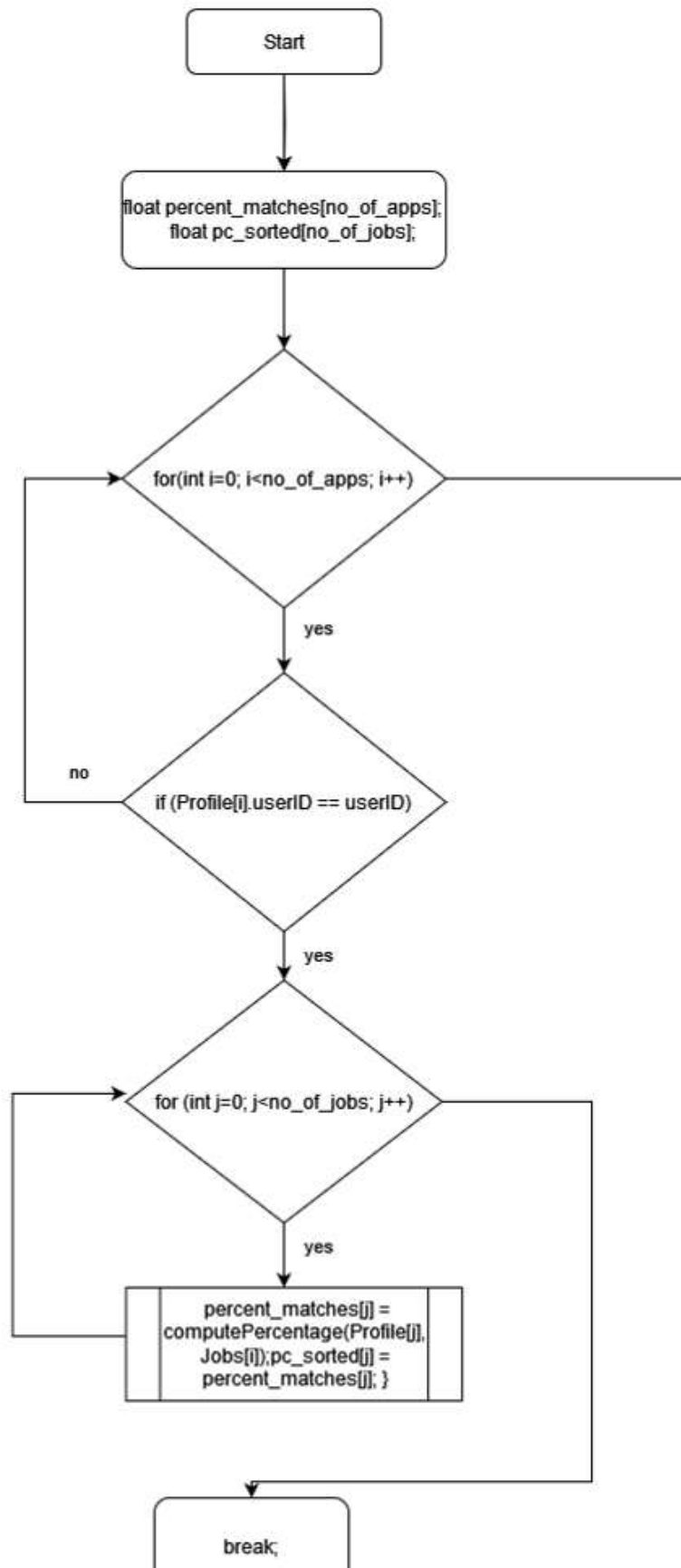


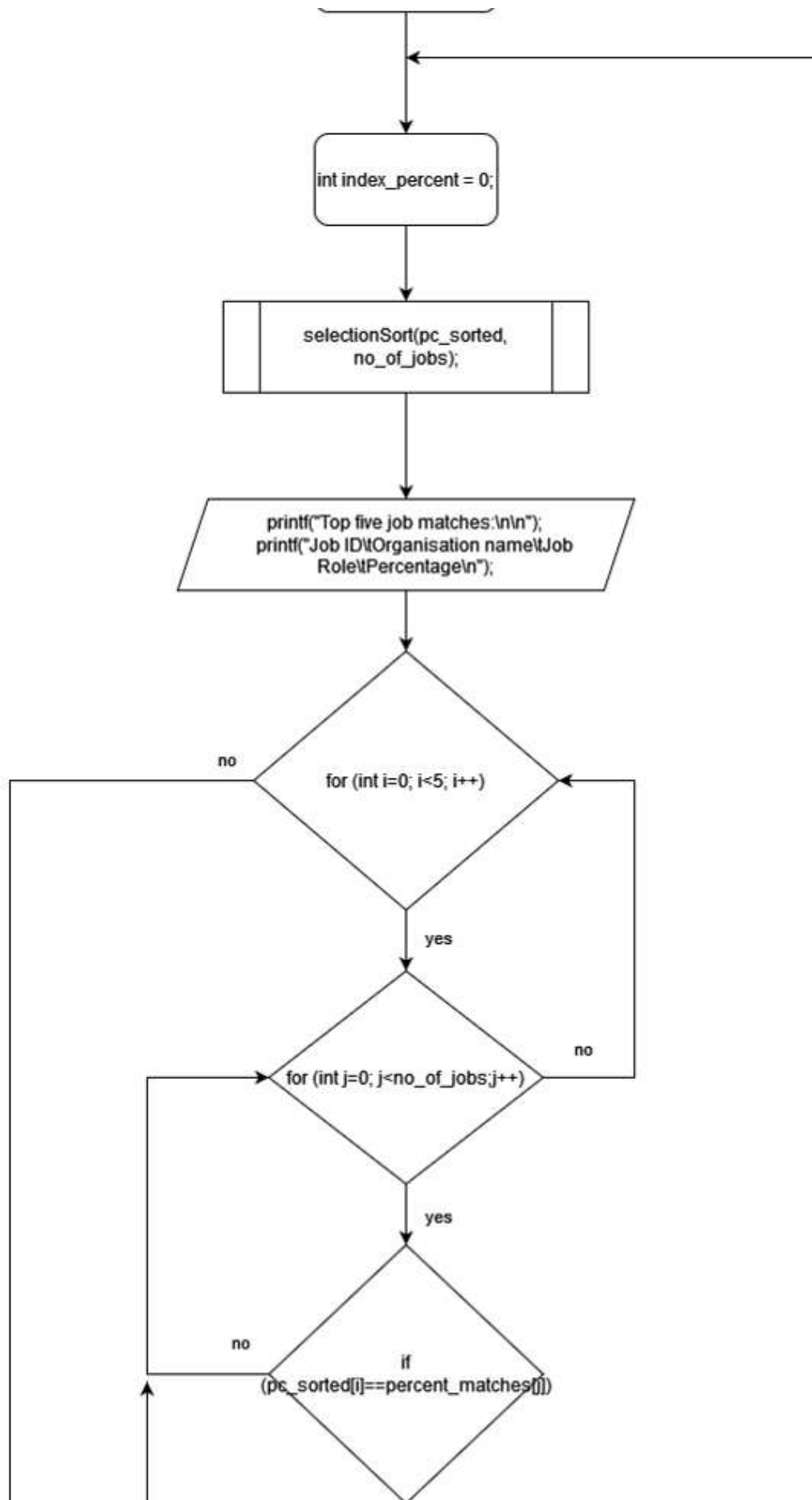


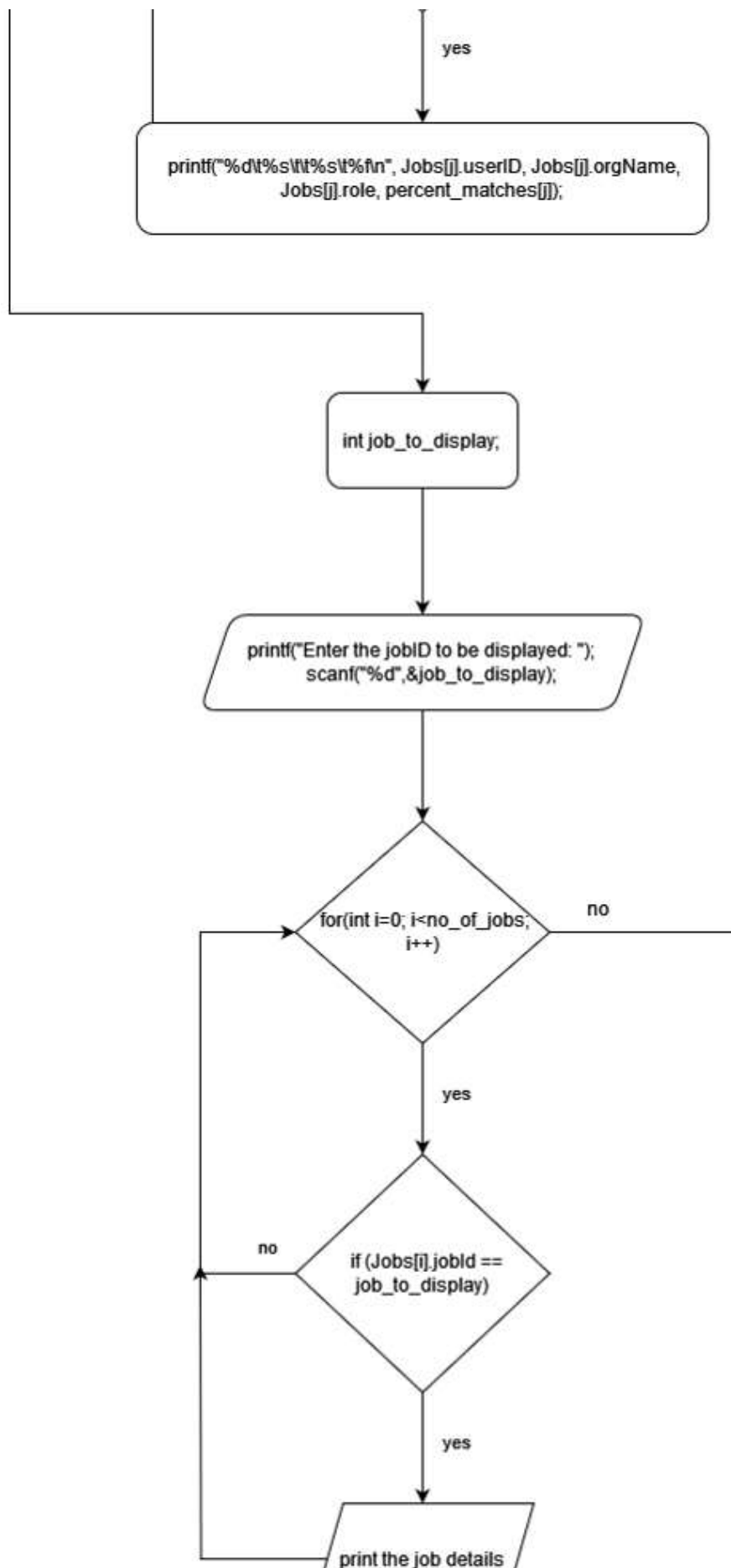


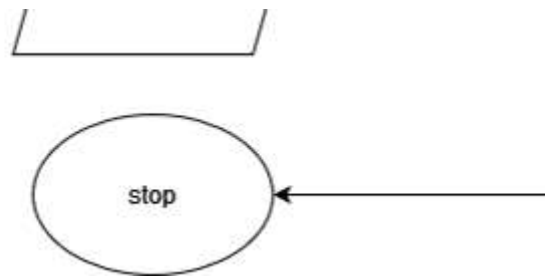


2.4.4 SEARCH APPLICANTS

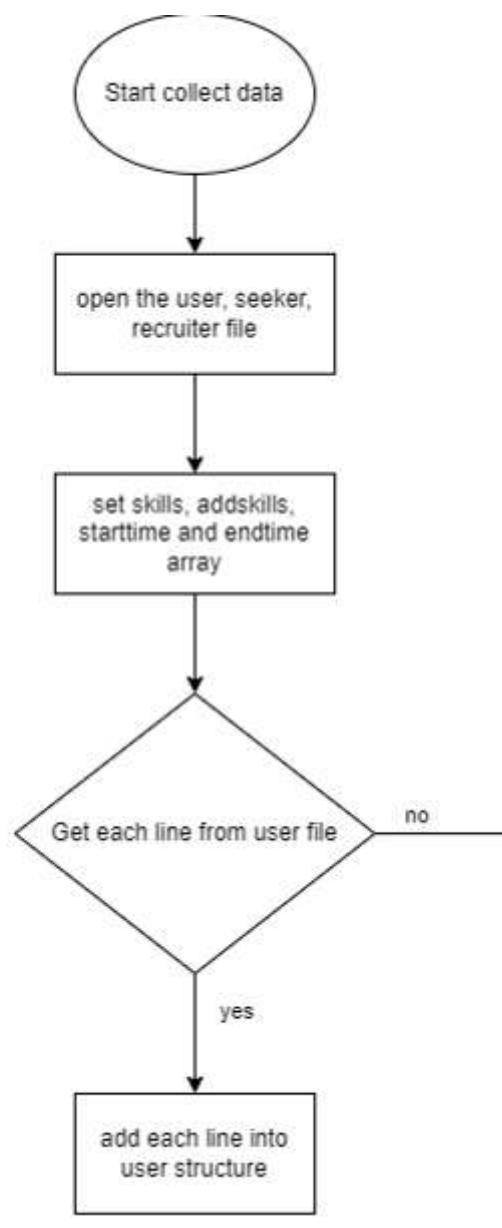


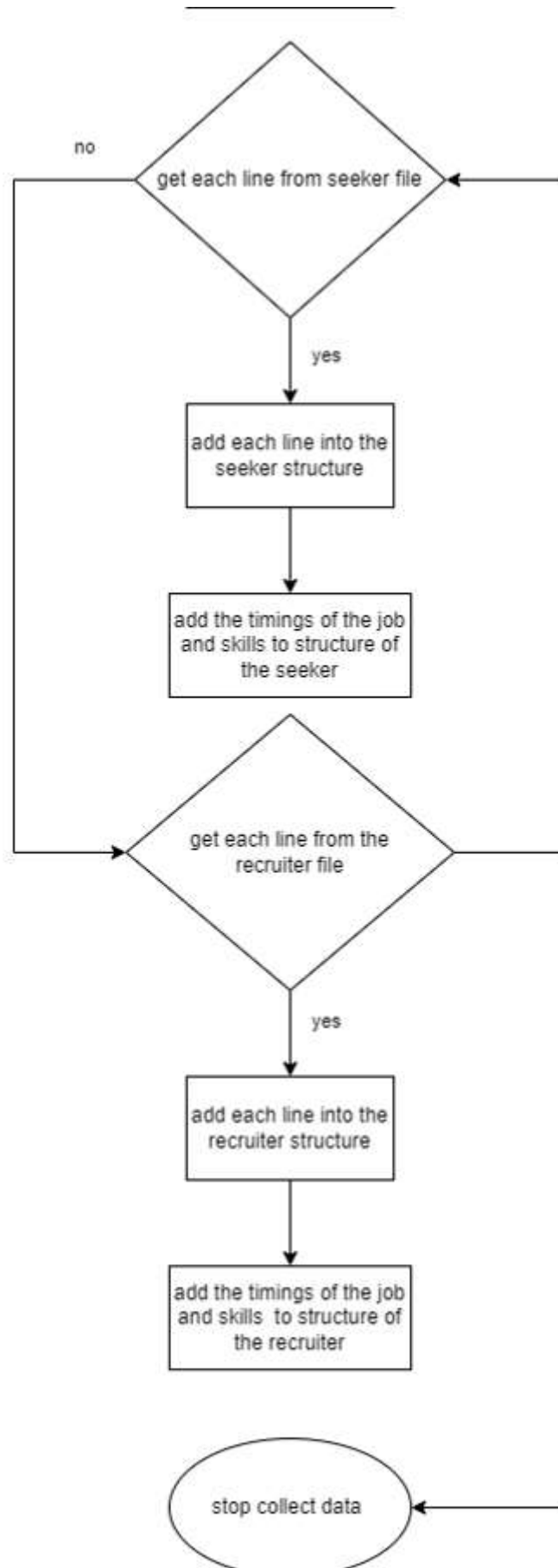






2.4.5 COLLECT DATA





MODULE DESCRIPTION

3.1 HOME PAGE MODULE:

This module displays the home page of the application and allows the user to sign-up or login.

3.2 SIGN UP MODULE:

This module allows the user to create a new account by creating a username and password, as well as entering information such as name, age, gender, date of birth, and account type. This information is stored in the User Profile Database.

3.3 LOGIN MODULE:

The user is asked to input their username and password in this module.

3.4 VALIDATE MODULE:

The entered username and password are verified by accessing the User Profile Database and searching for the corresponding credentials. If not found, a corresponding error message is displayed.

3.5 DISPLAY RECRUITER MENU MODULE:

This module displays the various options present to the user if he/she has entered with a 'recruiter' account.

3.6 DISPLAY SEEKER MENU MODULE:

This module displays the various options present to the user if he/she has entered with a 'seeker' account.

3.7 ADD JOB OPENING MODULE:

Information about a particular job posting is to be inputted by the user. This includes Role Name, required qualifications, location, salary, years of experience, etc. This information is stored in the Job Recruiters Database.

3.8 EDIT JOB POST MODULE:

This module is used to modify an already existing job opening created by the currently logged in account. The user may also be able to remove the posting entirely.

3.9 SEARCH FOR APPLICANTS' MODULE:

It starts the process of displaying suitable job seekers by calling the Collect Data Module. It passes the account type to that function to specify which database is to be accessed and which data is to be displayed.

3.10 SEARCH FOR JOBS MODULE:

It starts the process of displaying suitable jobs by calling the Collect Data Module. It passes the account type to that function in order to specify which database is to be accessed and which data is to be displayed.

3.11 COLLECT DATA MODULE:

It starts by accessing both the Seekers and Recruiters Database and storing the information in a suitable data structure. This data is then passed to the Compute Percentage function.

3.12 COMPUTE PERCENTAGE MODULE:

This Module computes the percentage by following a weighted average calculation. Each individual constraint, whether it be a qualification or preference, is given a predetermined weightage, determined through numerous tests. The final percentage is calculated by the formula: $\text{sum of (score x weightage) / total weightage} \times 100\%$.

3.13 DISPLAY APPLICANTS' MODULE:

This module displays the top results from the Compute Percentage Module. This includes all of the top 20 results in which scores are at least 50%. This module then returns control to the corresponding menu.

IMPLEMENTATION

4.1 EXPLANATION OF HOW THE DATA IS ORGANIZED:

4.1.1 STRUCTURES:

The Seeker and Recruiter structs are used to create an array of structures to store and access user data, job preferences and various related to recruiters and seekers in a structured manner.

These structures provide a way to represent user data, job preferences, and various information related to recruiters and seekers in a structured manner.

4.1.1.1 USER STRUCTURE:

```
typedef struct {  
    int userID;  
    char username[50];  
    char password[50];  
    char account_type; // Seeker - s Recruiter - r  
} User;
```

- userID: An integer representing the unique identifier of the user.
- username: A character array (string) of length 50, storing the username of the user.
- password: A character array (string) of length 50, storing the password of the user.
- account_type: A character array (string) representing the type of the user's account

4.1.1.2 PREFERENCE STRUCTURE:

```
typedef struct  
{
```

```
char remote[10];  
char nightShift[10];  
char overtime[10];  
char paidLeave[10];  
char flexible[40];
```

```
} Preference;
```

- remote: A character array (string) of length 10, indicating the preference for remote work.
- nightShift: A character array (string) of length 10, indicating the preference for night shifts.
- overtime: A character array (string) of length 10, indicating the preference for overtime work.
- paidLeave: A character array (string) of length 10, indicating the preference for paid leaves.
- flexible: A character array (string) of length 40, indicating the preference for flexible working conditions.

4.1.1.3 TIME STRUCTURE:

```
typedef struct
```

```
{  
    int hour;  
    int min;  
} Time;
```

- hour: An integer representing the hour component of a time value.
- min: An integer representing the minute component of a time value.

4.1.1.4 RECRUITER STRUCTURE:

typedef struct

```
{  
    int userID;  
    int jobId;  
    char orgName[100];  
    char industry[100];  
    char role[100];  
    char skills[10][100];  
    char description[1000];  
    char qualification[50];  
    char qualField[100];  
    char addSkills[100][20];  
    int experience;  
    int salaryRange[2];  
    char location[2][100];  
    Time time[2];  
    char phoneNumber[20];  
    char email[100];  
    Preference pref;  
} Recruiter;
```

- userID: An integer representing the unique identifier of the recruiter.
- jobId: An integer representing the unique identifier of the job.

- orgName: A character array (string) of length 100, storing the name of the organization.
- industry: A character array (string) of length 100, indicating the industry of the job.
- role: A character array (string) of length 100, indicating the role of the job.
- skills: A 2D character array (string array) of size 10x100, storing the skills required for the job.
- description: A character array (string) of length 1000, storing the description of the job.
- qualification: A character array (string) of length 50, indicating the qualification required for the job.
- qualField: A character array (string) of length 100, indicating the field of qualification required for the job.
- addSkills: A 2D character array (string array) of size 100x20, storing additional skills required for the job.
- experience: An integer representing the required experience for the job.
- salaryRange: An integer array of size 2, representing the salary range for the job.
- location: A 2D character array (string array) of size 2x100, indicating the locations of the job.
- time: An array of two Time structures, representing the time details of the job.
- phoneNumber: A character array (string) of length 20, storing the phone number of the recruiter.
- email: A character array (string) of length 100, storing the email address of the recruiter.

- pref: A Preference structure storing the job preferences of the recruiter.

4.1.1.5 SEEKER STRUCTURE:

typedef struct

```
{
    int userID;
    char name[100];
    char industry[100];
    char role[100];
    char skills[10][100];
    char qualification[50];
    char qualField[100];
    char addSkills[100][20];
    int experience;
    int salaryRange[2];
    char location[2][100];
    Time time[2];
    char phoneNumber[20];
    char email[100];
    Preference pref;
} Seeker;
```

- userID: An integer representing the unique identifier of the seeker.
- name: A character array (string) of length 100, storing the name of the seeker.

- industry: A character array (string) of length 100, indicating the industry the seeker is interested in.
- role: A character array (string) of length 100, indicating the role the seeker is looking for.
- skills: A 2D character array (string array) of size 10x100, storing the skills of the seeker.
- qualification: A character array (string) of length 50, indicating the qualification of the seeker.
- qualField: A character array (string) of length 100, indicating the field of qualification of the seeker.
- addSkills: A 2D character array (string array) of size 100x20, storing additional skills of the seeker.
- experience: An integer representing the experience of the seeker.
- salaryRange: An integer array of size 2, representing the desired salary range of the seeker.
- location: A 2D character array (string array) of size 2x100, indicating the preferred locations of the seeker.
- time: An array of two Time structures, representing the time details of the seeker.
- phoneNumber: A character array (string) of length 20, storing the phone number of the seeker.
- email: A character array (string) of length 100, storing the email address of the seeker.
- pref: A Preference structure storing the job preferences of the seeker.

4.1.2 CSV FILE:

These files are accessed by the above structures and the data of the file is read from the files and stored in the array of structures. These arrays of structures are later used for other processes within the program.

4.1.2.1 JOB INFORMATION FILE:

A CSV file to store the details of each job posted by the recruiter.

4.1.2.2 JOB SEEKER FILE:

A CSV file to store the details of each seeker who creates an account in the system.

4.1.2.3 USER INFORMATION FILE:

A CSV file to store Account details such as Username, password, and account type.

4.2 RATIONALE BEHIND SELECTION OF LANGUAGE CONSTRUCT:

Grouping related data: Structs allow you to group related variables together, making it easier to manage associated data.

Modularity and code organization: Structs promote modular programming by encapsulating related data and operations into a single entity, improving code organization and readability.

Simplified data management: Arrays of structs provide a convenient way to store and manage collections of data elements, allowing for easier manipulation and iteration.

Flexibility and extensibility: Structs can be expanded with additional properties, enabling flexibility in representing different variations of an entity.

Improved code reusability: Structs facilitate reusable data structures, reducing code duplication and enhancing maintainability.

Easy data passing: Passing structs simplifies data exchange, making the code more concise and reducing the chance of errors.

Consistency and type safety: Structs enforce data structure and type, ensuring data consistency and reducing errors related to incorrect assignments or access.

In summary, structs and arrays of structs enhance code organization, simplify data management, promote reusability, enable flexible data representation, facilitate data passing, and ensure data consistency and type safety.

4.3 EXPLANATION OF LIBRARIES OR APIS:

4.3.1 LIBRARIES:

These header files are included in C programs to provide the necessary function prototypes, definitions, and constants needed for the corresponding functionalities. By including these headers, you can access and utilize the functions and structures defined within them

4.3.1.1 STRING.H:

This header file provides various functions and definitions for string manipulation in the C programming language. It includes functions for string copying ('strcpy'), concatenation ('strcat'), comparison ('strcmp'), length calculation ('strlen'), tokenization ('strtok'), and more.

4.3.1.2 STDIO.H:

This header file provides input and output functions in C. It includes functions such as 'printf' for formatted output, 'scanf' for formatted input, and other file-related operations like 'fopen', 'fclose', 'fgets', and 'fwrite'. It also defines the standard input/output streams ('stdin', 'stdout', and 'stderr').

4.3.1.3 STDLIB.H:

This header file includes several general-purpose functions in C, such as memory allocation and deallocation ('malloc', 'calloc', 'realloc', 'free'), random number generation ('rand', 'srand'), system control ('exit', 'system'), string conversions ('atoi', 'atof', 'itoa'), and more.

4.3.1.4 TIME.H:

This header file provides functions for working with time and date in C. It includes functions to retrieve the current time ('time'), convert

time structures ('strptime', 'gmtime', 'localtime'), measure time intervals ('difftime'), and work with calendar time representations.

4.3.1.5 CURL/CURL.H:

curl/curl.h: This header file is used when working with the cURL library in C. cURL is a popular library that provides capabilities for making HTTP requests, handling URLs, and transferring data using various protocols (HTTP, FTP, etc.). 'curl/curl.h' includes the necessary declarations and definitions required to use cURL functions and structures in a C program.

4.3.2 GOOGLE FORMS:

Google Forms is an online survey and data collection tool provided by Google. It allows users to create customizable forms to collect information from respondents. Users can design forms with various question types, apply conditional logic, and customize the form's appearance. When respondents fill out the form, the responses are automatically collected and stored in a Google Sheets spreadsheet for easy management and analysis. Google Forms offers options for collaboration, form distribution, response validation, and data analysis. It integrates with other Google services, making it a versatile tool for surveys, feedback collection, event registrations, quizzes, and more. With its user-friendly interface and robust features, Google Forms simplifies the process of creating, distributing, and analyzing online forms.

Google forms have been used in this project for collection of data for Job Post and Seeker Details from the respective user. This is then automatically updated in the Spreadsheet which is saved as a CSV file. The automatic updating is facilitated by use of App Script, provided by google.

4.4 PLATFORM USED:

4.4.1 VISUAL STUDIO CODE:

Visual Studio Code is a lightweight source-code editor developed by Microsoft. It provides a versatile and customizable coding environment with support for various programming languages. Visual Studio Code offers extensive extensions and integration capabilities, enabling developers to enhance their workflows and collaborate effectively.

- Cross-platform support
- Versatile language support
- Extensibility with extensions and customization options
- Integrated terminal for command execution
- Built-in Git integration
- Debugging capabilities
- Productivity features like code snippets and powerful search

4.4.2 GOOGLE DRIVE:

Google Drive is a cloud-based file storage and synchronization service provided by Google. It allows users to store and access their files securely from anywhere with an internet connection. Google Drive facilitates collaboration, document editing, and seamless sharing, making it a convenient platform for individuals and teams to manage and work on files together.

- File storage and organization
- Collaboration and sharing with permission.
- Online document editing with Google Docs, Sheets, Slides, and Forms
- Version history and revision control
- Accessibility and synchronization across devices
- Integration with other Google services

- Third-party application integration

DATA

5.1 FORMS

JOB INFORMATION FORM:

https://docs.google.com/forms/d/e/1FAIpQLSfSgNaHSqi2yJalK5AxIkLYIBZ2io2T831Yc5uB5GUuil2TZg/viewform?usp=sf_link

JOB SEEKERS FORM:

https://docs.google.com/forms/d/e/1FAIpQLScwUhmRfKA-9Fl-gSnT_c9zR0oAFx32_IQukQfsx717f9nDtw/viewform?usp=sf_link

5.2 FILES

JOB INFORMATION FORM (RESPONSES)

What is the Organization Name?	This role is of which industry?	What Role is this job offering?	What are the required skills? (Format: Java, Python, etc.)
Wise Owl Industries	Office and administrative support	Office Assistant	Organization;Communication;Micro:...
XYZ Corp	Business and financial	Financial Analyst	Financial Modeling;Data Analysis;E...
Smith & Associates	Architecture and engineering	Civil Engineer	AutoCAD;Structural Analysis;Projec...
Johnson Enterprises	Computer and information technology	Software Developer	Programming Languages (Java;Pyt...
Innovative Solutions Ltd.	Education;training and library	Teacher	Classroom Management;Lesson Pl...
Global Tech Inc.	Healthcare	Nurse	Patient Care;Medical Knowledge;At...
Bright Ideas Co.	Entertainment and sports	Sports Coach	Coaching Techniques;Sports Knowl...
Creative Minds Organization	Legal	Lawyer	Legal Research;Analytical Thinking...
Stellar Industries	Life;physical and social science	Research Scientist	Experimental Design;Data Analysis...
Leading Edge Enterprises	Transportation and material moving	Truck Driver	Driving Skills;Route Planning;Vehic...
Dynamic Innovations Group	Protective service	Police Officer	Law Enforcement;Crisis Manageme...
Elite Business Services	Community and social services	Social Worker	Counseling;Case Management;Emg...
Visionary Ventures	Sales	Sales Representative	Persuasion;Customer Relationship...
Global Tech Inc.	Healthcare	Medical Receptionist	Medical Terminology;Appointment S...
Success Strategies Inc.	Management	Manager	Leadership;Decision Making;Team I...
Prime Time Company	Computer and information technology	IT Support Specialist	Troubleshooting;Technical Knowled...
Innovative Solutions Ltd.	Education;training and library	Librarian	Information Retrieval;Cataloging;Re...
Alpha Omega Corporation	Business and financial	Accountant	Financial Analysis;Bookkeeping;Att...
Infinity Technologies	Arts and design	Graphic Designer	Adobe Creative Suite;Typography;V...

JOB SEEKING FORM (RESPONSES)

What is your name?	Of which industry is your preferred job?	What is your preferred role?	What skills do you possess? (Format: Java, Python, etc)
Arun Pankaj	Computer and information technology	IT Specialist	Java, Python, C++, Excel
Mithal Kumar	Entertainment and sports	Sports Analyst	Training, Cricket
Arun Lal	Legal	Lawyer	Public Speaking, Psychology
Liam	Office and administrative support	Administrative Assistant	Organizational skills; Communication skills; Time management
Emma	Management	Operations Manager	Leadership skills; Strategic planning; Decision-making
Noah	Business and financial	Financial Analyst	Financial analysis; Data interpretation; Problem-solving
Olivia	Architecture and engineering	Civil Engineer	Structural design; Project management; Technical drawing
William	Arts and design	Graphic Designer	Creativity; Adobe Photoshop; Communication design
Ava	Computer and information technology	Software Developer	Programming languages; Software development life cycle; Problem-solving
James	Education; training and library	Teacher	Classroom management; Lesson planning; Communication skills
Isabella	Healthcare	Nurse Practitioner	Patient care; Medical knowledge; Critical thinking
Oliver	Entertainment and sports	Event Coordinator	Event planning; Organization; Negotiation
Sophia	Legal	Lawyer	Legal research; Analytical skills; Advocacy
Benjamin	Life; physical and social science	Research Scientist	Scientific research methods; Data analysis; Laboratory techniques
Mia	Transportation and material moving	Logistics Manager	Supply chain management; Inventory control; Problem-solving
Elijah	Protective service	Police Officer	Law enforcement; Crime prevention; Emergency response
Charlotte	Community and social services	Social Worker	Counseling; Case management; Empathy
Lucas	Sales	Sales Representative	Customer relationship management; Negotiation; Product knowledge
Amelia	Office and administrative support	Executive Assistant	Calendar management; Decision-making; Confidentiality

USER DETAILS FILES

Enter Username:	Enter Password:	Choose type of account:
global_tech_inc	password123	Recruiter
wise_owl_industries	wework222	Recruiter
innovative_solutions_ltd	hellothere921	Recruiter
isaiah21	Is@lah21	Seeker
stellar_industries	Stellar@2023	Seeker
wise_marketing	WiseMarketing@2023	Recruiter
alpha_omega_tech	AlphaOmegaTechnologies	Recruiter
alphabetaco	AlphaBeta@2023	Recruiter
ella_88	Ell@_88	Recruiter
visionary_marketing	VisionaryMarketing@2023	Seeker
visionary_ventures	Visionary@2023	Recruiter
savannah11	S@vannah11	Recruiter
primetimeco	PrimeTime#2023	Seeker
prime_marketing	PrimeMarketing@2023	Recruiter
owen_88	Ow3n_88	Recruiter
scarlett07	Sc@rlett07	Seeker
emily17	17Emily!	Seeker
cuttingedge_innov	CuttingEdgeInnov@2023	Seeker
peak_performance_sol	PeakPerformanceSol@2023	Recruiter

TESTING

6.1 INPUT

SEEKER:

```
Welcome to the login page. Type 'Sign-Up' as username in order to Sign-Up for a new account. Otherwise, enter username.
Username: claire_2023
Password: Cl@ire#2023

Logged in successfully.
User ID: 896317
Username: claire_2023
Account Type: Seeker

Welcome to the Seeker Menu! Choose one of the following options to perform
Enter 1 : Add seeker details
Enter 2 : Search for Jobs
Enter 3: Exit Application
```

RECRUITER:

```
Welcome to the login page. Type 'Sign-Up' as username in order to Sign-Up for a new account. Otherwise, enter username.
Username: visionary_dev
Password: VisionaryDev@2023

Logged in successfully.
User ID: 826713
Username: visionary_dev
Account Type: Recruiter

Welcome to the Recruiter Menu! Choose one of the following options to perform
Enter 1 : Add Job
Enter 2 : Search for Seekers
Enter 3: Exit Application

Enter choice : 2
Job ID      Organisation Name      Job Role
96541      Innovation Research Ltd.  Software Tester

Choose JobID:
96541
```

6.2 EXPECTED OUTPUT

SEEKER:

```
Top five job matches:

Job ID      Organisation Name      Job Role      Percentage
91324      Blue Sky Investments   Nurse Practitioner  70.19
80641      Precision Software Inc.  Mental Health Counselor  70.04
70293      Cutting Edge Services   Surgeon        65.80
29514      Precision Engineering Inc.  Doctor         63.75
81526      Stellar Consulting InternationalPharmacist  62.63

Enter the jobID to display more details: 91324

The Job Details details are:
Job ID: 91324
Organization Name: Blue Sky Investments
Industry: Education;training and library
Role: Nurse Practitioner
Qualification: Postgraduate Degree
Qualification Field: Health Professions and Related Programs
Experience: 6 years
Salary Range: 100000 - 150000
Location: Pune, India
Timings: 18:00 - 03:00
Phone Number: 312345678
Email: lincoln@gmail.com
```

RECRUITER:

```
Top five seeker matches:

Seeker ID      Name      Job Role      Percentage
82567          Oliver   Event Coordinator  57.55
27270          Mia      Logistics Manager  56.91
63034          Christopher  Detective        56.33
55313          Elijah   Police Officer    56.23
47683          Savannah  Detective         56.10

Enter the seekerID to be displayed:
82567

The Seeker Details details are:
Job ID: 82567
Organization Name: Oliver
Industry: Entertainment and sports
Role: Event Coordinator
Qualification: Diploma
Qualification Field: Visual and Performing Arts

Experience: 3 years
Salary Range: 30000 - 40000
Location: Jaipur, India
Timings: 09:00 - 18:00
Phone Number: 1098765432
Email: oliver@gmail.com
Preferences:
Remote: Rarely
Night Shift: Rarely
Overtime: Often
Paid Leave: 10-15
Flexible: Flexible only with pay
```

6.3 ACTUAL OUTPUT

SEEKER:

```
Top five job matches:

Job ID      Organisation Name      Job Role      Percentage
91324      Blue Sky Investments   Nurse Practitioner  70.19
80641      Precision Software Inc. Mental Health Counselor  70.04
70293      Cutting Edge Services  Surgeon        65.80
29514      Precision Engineering Inc. Doctor         63.75
81526      Stellar Consulting International Pharmacist        62.63

Enter the jobID to display more details: 91324

The Job Details details are:
Job ID: 91324
Organization Name: Blue Sky Investments
Industry: Education;training and library
Role: Nurse Practitioner
Qualification: Postgraduate Degree
Qualification Field: Health Professions and Related Programs
Experience: 6 years
Salary Range: 100000 - 150000
Location: Pune, India
Timings: 18:00 - 03:00
Phone Number: 312345678
Email: lincoln@gmail.com
```

RECRUITER:

```
Top five seeker matches:

Seeker ID      Name      Job Role      Percentage
82567          Oliver   Event Coordinator  57.55
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Enter the seekerID to be displayed:
82567

The Seeker Details details are:
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Experience: 3 years
Salary Range: 30000 - 40000
Location: Jaipur, India
Timings: 09:00 - 18:00
Phone Number: 1098765432
Email: oliver@gmail.com
Preferences:
Remote: Rarely
Night Shift: Rarely
Overtime: Often
Paid Leave: 10-15
Flexible: Flexible only with pay
```


CONCLUSION

7.1 LIMITATIONS:

- **Skill and Qualification Verification:** The platform may face challenges in accurately verifying the skills and qualifications stated by job seekers. Relying solely on self-reported information may introduce a risk of misrepresentation or exaggeration, which can impact the quality of matches between job seekers and job positions.
- **Privacy and Security Concerns:** The collection and storage of personal data on the platform pose privacy and security risks. Adequate measures must be in place to protect user information, prevent data breaches, and comply with applicable data protection regulations.
- **Scalability:** As the platform grows and attracts more users and job listings, the storage requirements will increase. The platform should be designed to handle large amounts of data efficiently and have the ability to scale its storage capacity accordingly. Failure to scale appropriately may result in performance issues and limited storage availability.
- **Data Accessibility and Availability:** Ensuring reliable and timely access to stored data is crucial. If storage systems encounter downtime or face technical issues, it can hinder the availability and accessibility of user profiles and job listings. Implementing redundancy measures and backup strategies can help minimize data unavailability.

7.2 OBSERVATIONS:

7.2.1 SOCIETAL:

- Such an application can help automate the hiring process, making it faster and more efficient for both job seekers and recruiters.
- The application can make it easier for job seekers to find job openings that match their skills and qualifications, increasing their chances of finding employment.

- The application can facilitate better communication between job seekers and recruiters, making it easier for them to connect and discuss job opportunities.

7.2.2 LEGAL:

- The application collects personal data from job seekers and recruiters, so it's important to ensure that the application complies with applicable data protection laws and regulations. This includes providing adequate notice to users about what data is being collected and how it will be used, obtaining appropriate consents, and implementing appropriate security measures to protect the data from unauthorized access, use, or disclosure.
- The use of this application for hiring purposes may implicate various employment laws, such as those governing minimum wage, overtime, and working conditions. It is important to ensure that the application and the hiring process comply with applicable employment laws and regulations.

7.2.3 ENVIRONMENTAL:

- **Reduced Paper Consumption:** By providing a digital platform for job seekers to create profiles, upload resumes, and apply for positions, the project can significantly reduce the need for paper-based applications and physical resumes. This reduction in paper consumption contributes to saving trees and minimizing the carbon footprint associated with paper production and disposal.
- **Decreased Commute and Travel:** The platform enables job seekers to search for job opportunities online without the need for physical travel to various locations. This reduction in commute and travel not only saves time and energy but also reduces carbon emissions from transportation, thereby contributing to a greener environment.

- **Efficient Resource Allocation:** By streamlining the recruitment process and facilitating efficient matching between job seekers and employers, the project optimizes resource allocation. Employers can more accurately identify qualified candidates, reducing the need for extensive interviews and selection processes. This optimization results in a reduction of wasted resources, including time, energy, and materials.

7.2.4 ETHICAL:

- The use of an application for hiring purposes may raise questions about fairness and bias. If the application uses algorithms or other automated tools to evaluate job Candidates, there is a risk that these tools may perpetuate bias or discrimination, particularly if they are trained on data that reflects historical biases. It is important to ensure that the application is designed and operated in a way that promotes fairness and minimizes bias.
- The use of an application for hiring purposes may raise questions about transparency and accountability. It is important to ensure that the application is transparent about how it operates and the criteria it uses to evaluate job candidates, and that there are appropriate mechanisms in place to hold the company accountable if issues arise.

7.3 LEARNING OUTCOMES:

As the project lead for "Job Seekers and Talent Acquisition," we were excited to highlight the valuable learning outcomes that we gained through our involvement. Our project aimed to create a platform that seamlessly connected job seekers with potential employers, utilizing the power of C programming language and leveraging Google Forms and Google Apps Script.

As we delved into the project, we had the opportunity to develop proficiency in C programming concepts, data structures, and algorithms. We implemented the platform using C, which significantly enhanced our coding skills.

Moreover, we gained hands-on experience in integrating Google Forms and Google Apps Script. We learned how to efficiently capture user data through user-friendly forms and used Apps Script to process and transform that data for further use.

In addition to learning about data handling in C, we explored the significance of Google Drive and its role in storing data securely. We also became familiar with CSV format handling, which is widely used for data interchange in various applications.

As we emphasized user experience in our platform, we gained insights into designing user-friendly interfaces using Google Forms. This helped us understand how to enhance the overall user interaction during data entry.

Furthermore, the project introduced us to the Structured Analysis process, where we learned about creating structured charts and data flow diagrams. We discovered how these visualization techniques can help in modeling and understanding the flow of data and processes within our platform.

Throughout the project, we worked on data management and automation, using Google Apps Script to streamline processes and convert Google Forms responses into a CSV file. This experience was invaluable as we delved into real-world application development.

Even though our platform was not fully web-based, we got exposure to essential web development concepts. This provided us with an understanding of how to process and utilize data from the web effectively.

We also sharpened our problem-solving and debugging skills as we faced challenges in integrating different technologies. Working collaboratively in a team setting, we enhanced our teamwork and collaboration abilities, ensuring the smooth achievement of project goals.

We also gained valuable insights into project management. We learned how to plan, organize, and execute the project within specified timelines and constraints, promoting efficiency and success.

As we analyzed the data collected through the platform, we had the opportunity to make informed decisions based on the insights gained. This data analysis aspect further expanded our skill set and contributed to our overall learning experience.

Lastly, we refined our documentation and communication skills as we documented the project's progress, findings, and outcomes. Effective communication was crucial for the project's success, and this experience was instrumental in our professional growth.

Overall, the "Job Seekers and Talent Acquisition" project offered us a rich learning experience. Combining C programming with Google Forms and Apps Script integration, we acquired valuable technical skills, problem-solving abilities, and practical application development knowledge within the context of job-seeking solutions. Additionally, the project introduced us to Structured Analysis processes, enabling us to create structure charts and data flow diagrams for effective visualization and modelling of data and processes.

REFERENCES

Google Forms Documentation

Google Apps Script Documentation

GeeksforGeeks - C Programming

RFC 4180 - Common Format and MIME Type for CSV Files

Google Drive API Documentation

Community Forums (Stack Overflow, Google Groups, etc.):

Stack Overflow

Google Groups