Assignment Cover Sheet

Qualification	Module Number and Title
HD in Computing and Software Engineering /Network Technology and Cyber Security	CSE 4002 Fundamentals in Programming
Student Name & No.	**Assessor**
Aqil Jesoor st20245824	
Hand over date	**Submission Date**

Assessment type	Duration/Length of Assessment Type	Weighting of Assessment
Coursework	Report and Software Submission (3000 words)	100%

Learner declaration

I, Aqil Jesoor CL/HDCSE/CMU/104/85 st20245824, certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

Marks Awarded

First assessor			
IV marks			
Agreed grade			
Signature of the assessor		Date	

Programming (1).pdf

ORIGINALITY REPORT

17%	8%	0%	17%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.coursehero.com Internet Source	8%
2	Submitted to Emirates National Schools Student Paper	4%
3	Submitted to University of Wales Institute, Cardiff Student Paper	3%
4	Submitted to Asia e University Student Paper	2%

Exclude quotes	Off	Exclude matches	Off
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Task 01

Importance of Programming

In today's generation, nothing is possible without programming. Moreover programming language is important because it defines the relationship and grammar in programming language enables programmers to effectively communicate with the machines.

Programming is a process Where a problem is identified, a plan is created for a solution, the program is coded, tested, and then developed. The programmer usually identifies the purpose as well as their depth of knowledge, finds a programming to use, troubleshoots it incrementally as it is completed to ensure that no errors are introduced, and then records the program's design, development, and testing.

Structured Programming

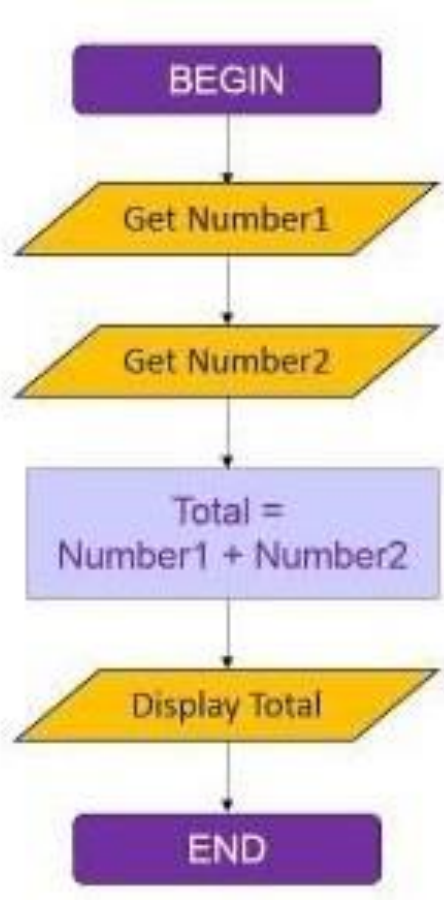
Structured programming is logical programming method that is considered a forerunner to object oriented programming. The purpose of structured programming is in order for the execution of a computer program that align with the order in which the code was written, control flow must be simplified. This improves the program's ability to be read, tested, and modified.

There are main three categories of control structures

- **Sequence**
- **Selection**
- **Iteration**

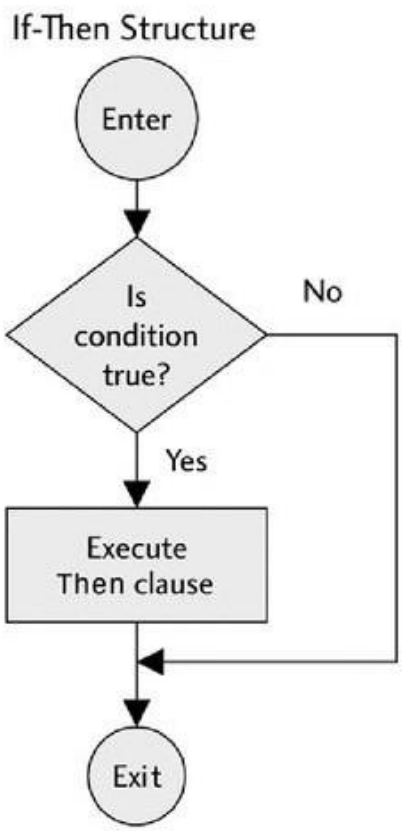
Sequence

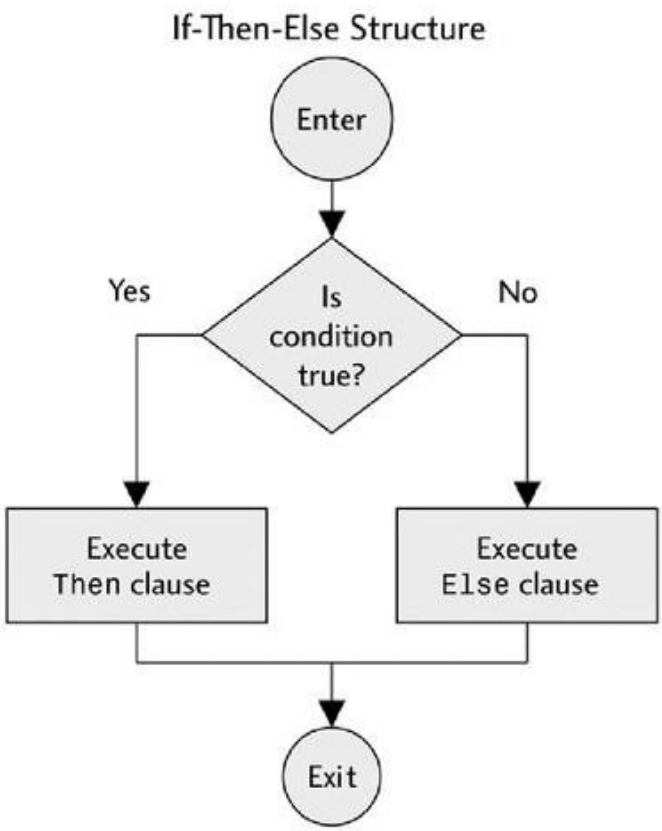
The first programming construct is sequence also statements are executed sequentially in programming. The statements are executed in the specified order, or sequence. A program's implementation order is crucial because executing out commands in the wrong order causes a program to malfunction.



Selection

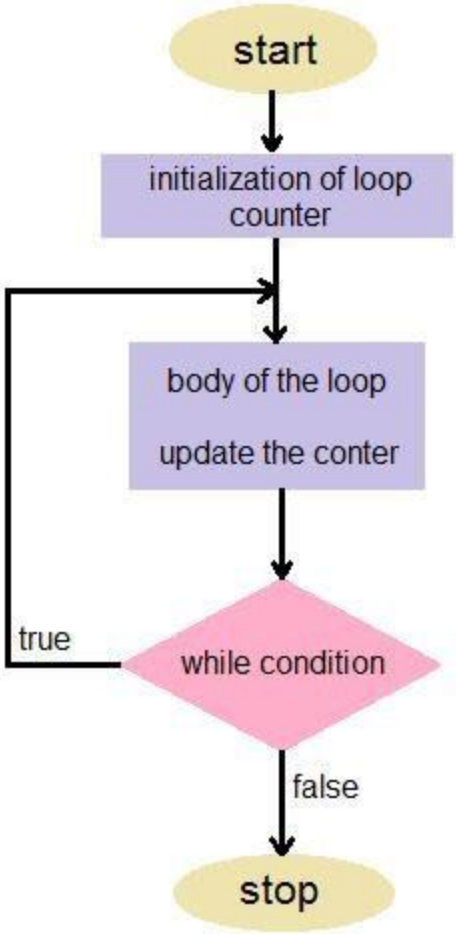
There are several instances where decisions must be made when designing programs. Programmers use IF statements to implement this choice, which is known as selection. An algorithm is a strategy, a set of detailed instructions created to address a challenge.





Iteration

In programming, iteration refers to repeatedly repeating processes or instructions. A “loop” is a common name for this. Algorithms are bundles of continuously performed instructions.


start
initialization of loop counter
body of the loop
update the conter
while condition
true
false
stop

Modularization

Modular programming (also referred to as modular architecture) is a general programming concept. It involves separating a program's functions into independent pieces or building blocks, each containing all the parts needed to execute a single aspect of the functionality. Together, the modules make up the executable application program.

Advantages of Modularization

- Easy to detect errors in the programming.
- A program can be divided into smaller programs in order to execute a variety of tasks.
- Can reuse the codes.
- Easier and lower risk.

Task 2

Introduction

- Every operation in a bookshop will be computerized according to the Bookshop software system. Usually, this system included stock management, account management, and other user details. By developing software that launches automatically when the required variables occur, any action may be automated.

Purpose

- This project is for "Genius Bookshop management" they can easily use these codes to run the program and add their entire details.

Scope

- Programming software was created to login their id also updates their details moreover, and jupdate the book stock details into it. The name of this software product is "Genius Bookshop" by this software program we include the user register, user login, company details, book details, etc. If we came for the benefits of this program software usually can detect the errors on it also we can reuse these codes in the programming at the same time it's very easier and lower risk to handle it.

Functional requirements

- User Registration – This is for those who are newly users of the system.
- User-Login - Should enter their username and the password to run the program.
- User-Logout – If the employee enter the correct value then logout message will be displayed.

Non-functional requirements

Reliability

- This programming software is running perfectly from login to logout without any errors.

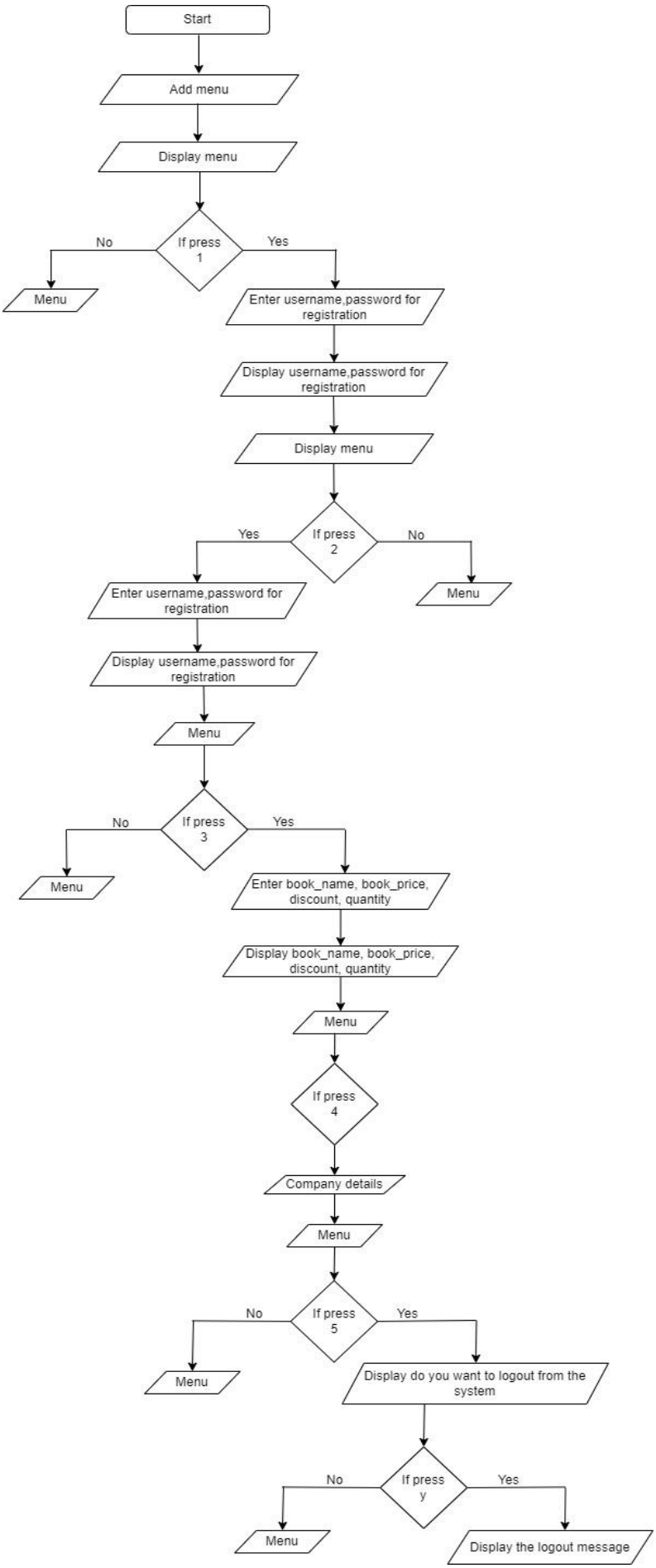
Security

- This software is full of secure so only the admin and the employee can run.

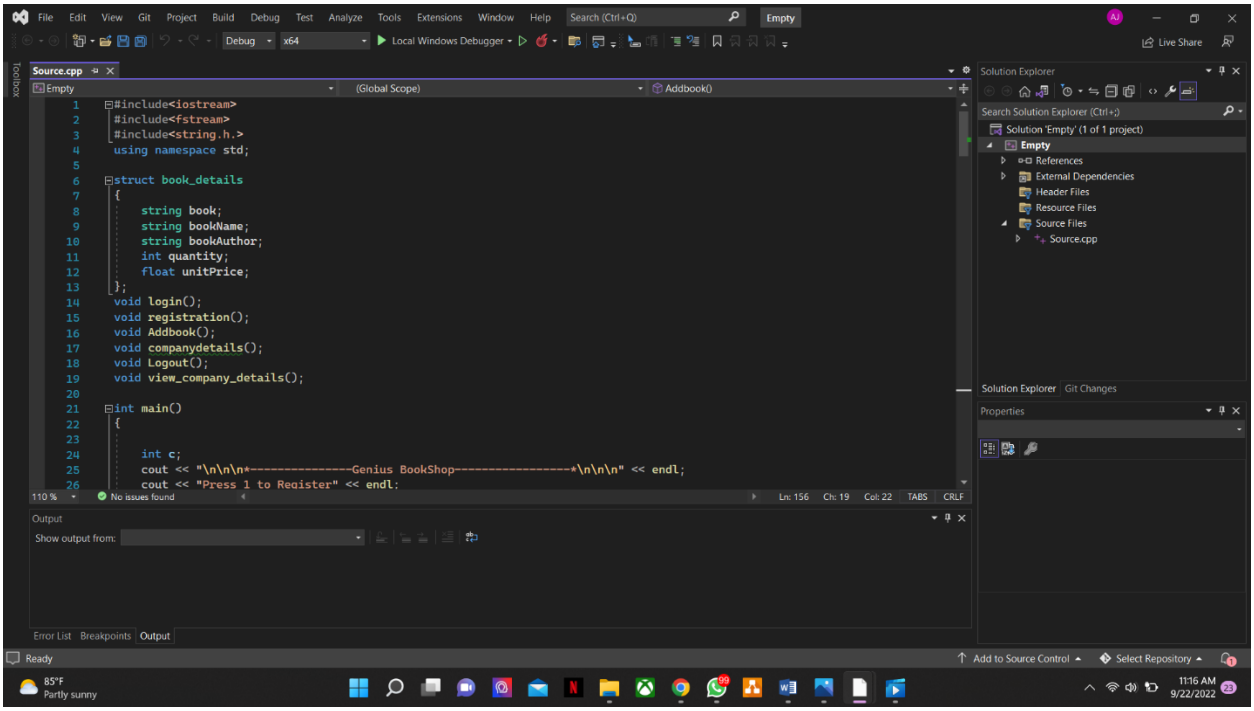
Maintainability

- All data's will be maintain perfectly by employee

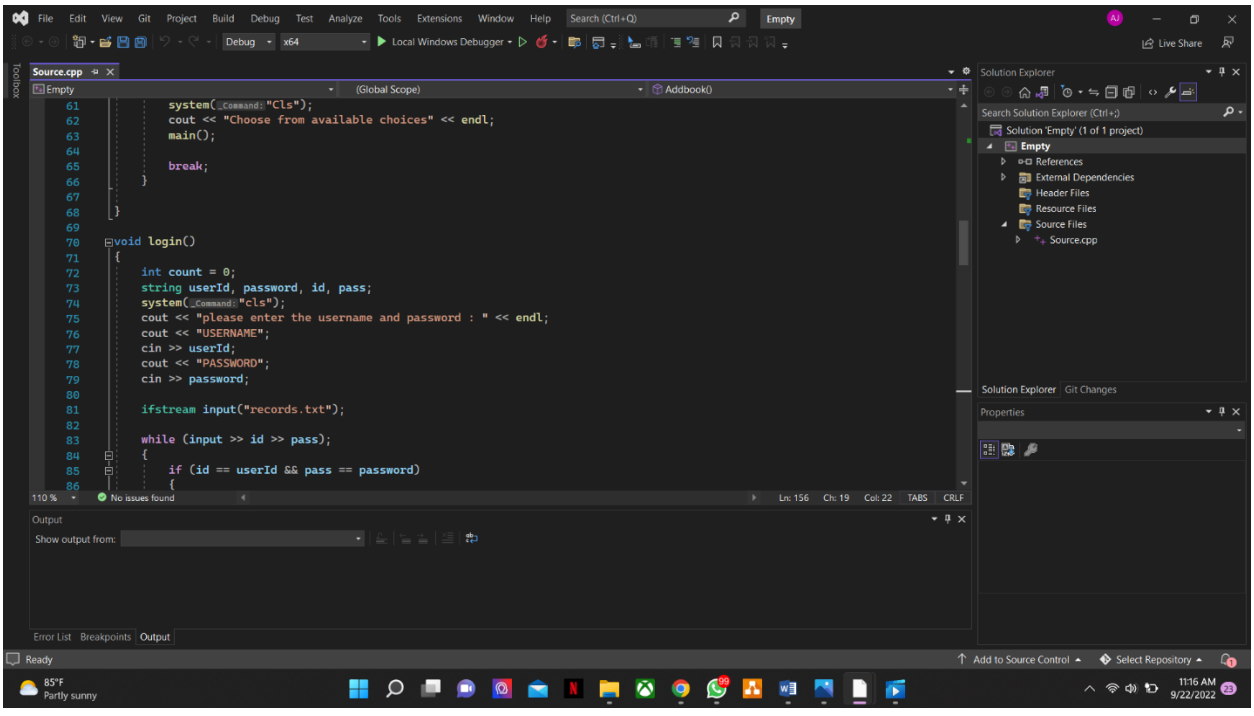
Flow chart


Start
Add menu
Display menu
If press 1
No
Yes
Menu
Enter username,password for registration
Display username,password for registration
Display menu
If press 2
Yes
No
Enter username,password for registration
Menu
Display username,password for registration
Menu
If press 3
No
Yes
Menu
Enter book_name, book_price, discount, quantity
Display book_name, book_price, discount, quantity
Menu
If press 4
Company details
Menu
If press 5
No
Yes
Menu
Display do you want to logout from the system
If press y
No
Yes
Menu
Display the logout message

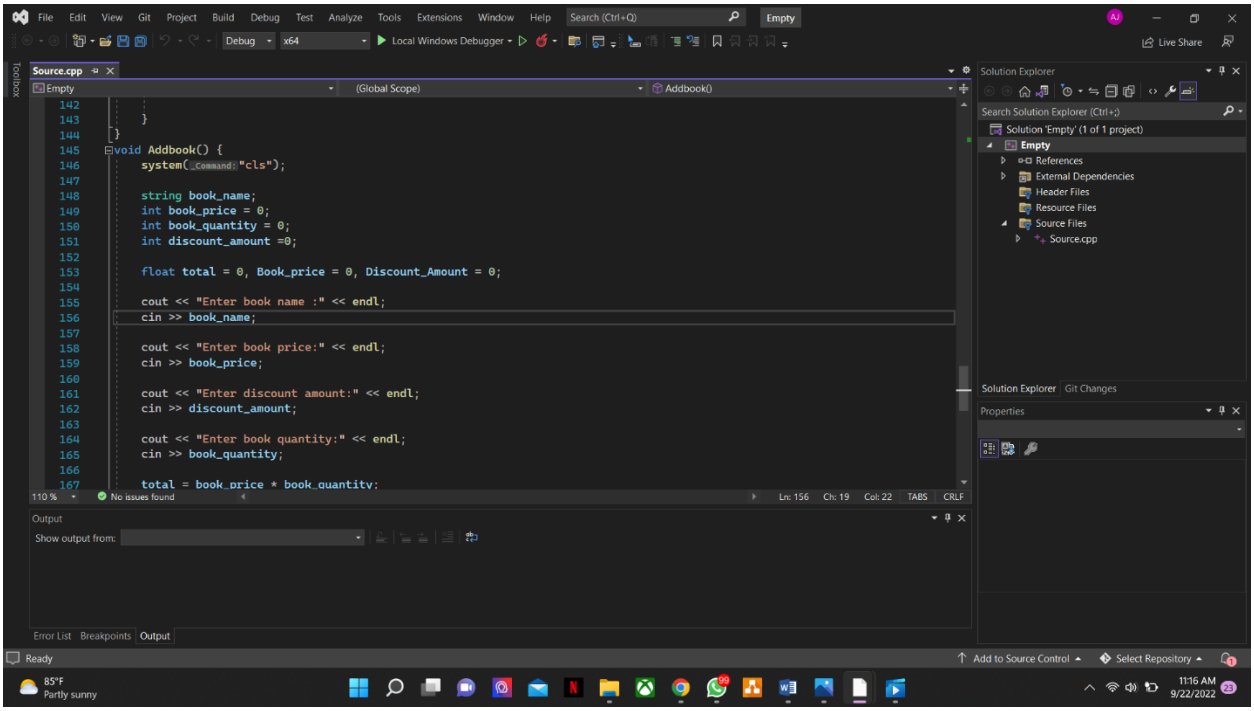
Task 3



```
#include<iostream>
#include<fstream>
#include<string.h>
using namespace std;

struct book_details
{
    string book;
    string bookName;
    string bookAuthor;
    int quantity;
    float unitPrice;
};
void login();
void registration();
void Addbook();
void companydetails();
void Logout();
void view_company_details();

int main()
{

    int c;
    cout << "\n\n\n*---------------Genius BookShop-----------------*\n\n\n" << endl;
    cout << "Press 1 to Register" << endl;
```



```
        system("Cls");
        cout << "Choose from available choices" << endl;
        main();

        break;
    }

}

void login()
{
    int count = 0;
    string userId, password, id, pass;
    system("cls");
    cout << "please enter the username and password : " << endl;
    cout << "USERNAME";
    cin >> userId;
    cout << "PASSWORD";
    cin >> password;

    ifstream input("records.txt");

    while (input >> id >> pass);
    {
        if (id == userId && pass == password)
        {
```

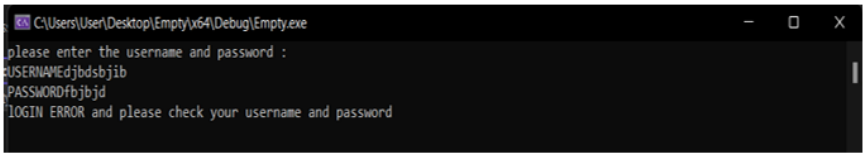


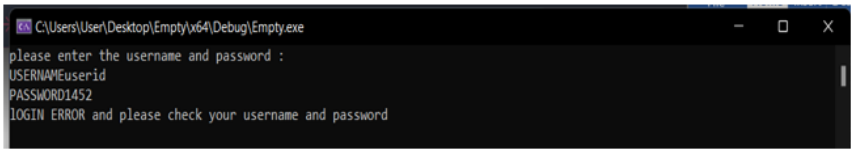
Task 4

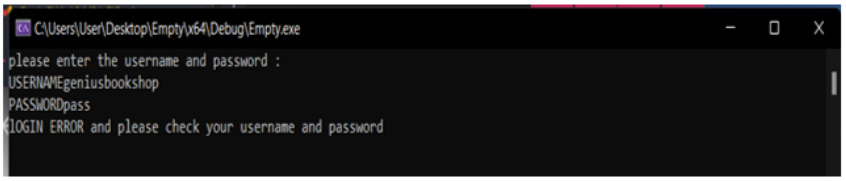
No.	Test case ID	Test case name	Scenario	Expected result
1	TC01	Checking the Login functionality	Enter the correct username and password	Genius Bookshop Menu
2	TC02	Checking the login functionality	Enter the incorrect username and password	Login unsuccessful
3	TC03	Checking the login functionality	Enter the correct username and incorrect password	Login unsuccessful
4	TC04	Checking the login functionality	Enter the incorrect username And correct password	Login unsuccessful
5	TC05	Checking the add book function	Press 3	Proceeding “add book”
6	TC06	Checking the view company details	Press 4	Proceeding “view company details”

Sample Test Case Template

Test case ID	TC01
Test objective	Checking the Login functionality
Test data	Username = GeniusBookshop Password = 1234
Expected result	Display *----------Genius BookShop Menu----------*
Actual result	Same as expected result
Screenshot	
Conclusion	Function works correctly.

Test case ID	TC02
Test objective	Checking the Login functionality
Test data	Username = dfbdsbjib Password = fbjbjd
Expected result	Login unsuccessful
Actual result	Same as expected result
Screenshot	
Conclusion	Function works correctly.

Test case ID	TC03
Test objective	Checking the Login functionality
Test data	Username = userid Password = 1453
Expected result	Login unsuccessful
Actual result	Same as expected result
Screenshot	
Conclusion	Function works correctly.

Test case ID	TC04
Test objective	Checking the Login functionality
Test data	Username = geniusbookshop Password = pass
Expected result	Login unsuccessful
Actual result	Same as expected result
Screenshot	
Conclusion	Function works correctly.

Test case ID	TC05
Test objective	Checking the add book function
Test data	Book name, Book price, Discount, Book quantity
Expected result	Proceeding “add book”
Actual result	Same as expected result
Screenshot	
Conclusion	Function works correctly.

Test case ID	TC06
Test objective	Checking the view company details
Test data	Company name, Company address, Company e-mail, Company contact number.
Expected result	Proceeding “view company details”
Actual result	Same as expected result
Screenshot	
Conclusion	Function works correctly.

Feedbacks

If In this system, must include a reset password function it’s very helpful. Also, this system needs a book details function.

Reference lists

Sequence, a., 2022. *Sequence, Selection, and Iteration - The Building Blocks of Programming Languages • The Learn Programming Academy*. [online] The Learn Programming Academy. Available at: https://learnprogramming.academy/programming/sequence-selection-and-iteration-the-building-blocks-of-programming-languages/> [Accessed 22 September 2022].

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