Syllabus Display System

Project Report

Submitted in Partial Fulfillment of the Requirement for the Degree of

BACHELOR OF ENGINEERING

(Electronics and Telecommunication)

MUMBAI UNIVERSITY

by

Shweta Rajput

Spencer Lobo

Misha Rai

Yash Tare

under the guidance of

Prof. Tejal Deshpande

Fr. Fabian Barreto

Prof. Nitin Ahire

Department of Electronics and Telecommunication Engineering

Xavier Institute of Engineering

Mahim (W), Mumbai - 400016

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Project Report Approval for S. E.

This project report entitled ***Syllabus Display System*** by ***Shweta Rajput, Spencer Lobo, Misha Rai, Yash Tare*** is approved for the degree of Bachelor of Engineering in Electronics and Telecommunication.

Examiners 1.----------

(Name & Sign)

2.----------

(Name & Sign)

Supervisors 1.----------

(Name & Sign)

2.----------

(Name & Sign)

HoD ----------

(Name & Sign)

Date:

Place:

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

(Signature)

Shweta Rajput 26
(Name and Roll No.)

Date: 08-12-2020

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Spencer Lobo 23
(Name and Roll No.)

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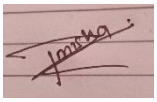

(Signature)

Misha Rai 25
(Name and Roll No.)

Date: 08-12-2020

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Yash Tare 35
(Name and Roll No.)

Date: 08-12-2020

ABSTRACT

Digitalization is important, but it’s difficult to keep up with the time especially in the education part of our society. Applications also are known as apps are the new way of digitalization which are also user-friendly. Using this concept to the massive syllabus outline that is given to students every year, A simplified program is made to overcome this problem.

ACKNOWLEDGMENTS

We would like to thank our project guide Prof. Tejal Deshpande, Fr. Fabian Barreto and Prof. Nitin Ahire who guided us into the world of programming using Java as the programming language. They have been a source of inspiration and his insight and vision has made it possible for us to pursue and understand the developments in these areas. Their patience, encouragement, critique and availability made this dissertation possible.

We are also grateful to Xavier Institute of Engineering Management, Principal Dr. Y. D. Venkatesh and especially the Head of the Department Ms. Vidya Sarode and all the faculty and staff who have helped us to be better acquainted with the recent trends in technology and from whom we have learned so much.

Moreover, we are thankful to all our colleagues and friends for the wonderful years and moments spent at XIE. They indeed have transformed our years at XIE into happy memories, memories which will linger on for decades.

Above all we are grateful to our family because of whose motivation and sacrifice we were able to pursue our Engineering studies. We are immensely grateful to our parents for their sacrifices and encouragement. We can never forget the dreams they have for us and the support they gave us from the very first day they held our hand and led us to school. We hope in the years to come our achievements will indeed make them proud.

CONTENTS

List of Figures

Chapter 1

Introduction

1.1. Motivation and Background

Keep up with the times is important saying today. Digitalization has taken the world by storm, but colleges have a hard time doing so. Having a signal webpage that consists of endless documentation, assignment, quizzes, but one of the most important topics in a student's study plan is the portion / syllabus. Although universities provide a syllabus, they are usually over 40 pages and can also have negative effect due to a lot of content in a single page.

1.2. Objective

The objective of our project is to simplify the syllabus provided by the universities making it digital and student friendly thus not posing a negative reaction at the students end. Also making is easy to go through the different subjects in a particular semester.

1.3. Outline and scope

This dissertation report consists of five chapters. The contents of the chapters are as follows:

Chapter 2 begins with the description of the different concepts used in generating the code to create a syllabus display system.

Chapter 3 Provides us the codes to the syllabus display system.

Chapter 4 Shows the output received when the codes in chapter 3 are compiled and executed.

Chapter 5 Concludes the project report.

1.4. Time plan

The time plan for our project is described in Fig. 1.1

	Aug	Sept	Oct	Nov	Dec
Selection of Topic					
Literature Survey					
Abstract					
Implementation I					
Report I					
Implementation II					
Report II					
Final Black Book Report					

Fig. 1.1 Project time plan

Chapter 2

Concepts used

2.1. The different concepts used are as follows.

1. Class & Object
2. Abstract class & Inheritance
3. Switch case
4. Package
5. Exception handling
6. Menu driven program

Chapter 3

Codes

3.1. Main program code

```
import java.util.*;
import java.util.Scanner;
import package_Sem3.Sem3;
import package_Sem3.Math3;
import package_Sem3.EIC;
import package_Sem3.NT;
import package_Sem3.EDC;
import package_Sem3.DSD;
import package_Sem4.Sem4;
import package_Sem4.Maths4;
import package_Sem4.LIC;
import package_Sem4.Micro;
import package_Sem4.PCE;
import package_Sem4.SandS;
class UsernameException extends Exception {
   public UsernameException(String msg) {
      super(msg);
```

```
    }
}
class PasswordException extends Exception {
    public PasswordException(String msg) {
        super(msg);
    }
}
public class Year_2 {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        String username, password;
        System.out.print("\fEnter the Username and Password provided");
        System.out.print("\n\nEnter username :- ");
        username = s.nextLine();
        System.out.print("Enter password :- ");
        password = s.nextLine();
        int ch;
        String eps;
        try {
            if(username.equals("student_xie") && password.equals("sem3_2020"))
            { System.out.println("Login Successful!!!");
                System.out.println("\n\nPress Enter to Continue.");
                eps=s.nextLine();
                do
                {
                    Scanner sc=new Scanner(System.in);
                    Math3 A=new Math3();
                    EIC B=new EIC();
                    NT C=new NT();
                    EDC D=new EDC();
                    DSD E=new DSD();
                    float m,n;
                    double res;
```

```
System.out.println("\fWelcome to Semister 3");
System.out.println("You have these subjects this year:");
System.out.println(" 1. Engineering Mathematics-III");
System.out.println(" 2. Electronic Devices & Circuits");
System.out.println(" 3. Digital System Design");
System.out.println(" 4. Network Theory");
System.out.println(" 5. Electronic Instrumentation & Control Systems");
System.out.println(" 6. Exit");
System.out.println("entry the number across each subject to know more");
ch=sc.nextInt();
String ent;
switch(ch)
{
   case 1: A.Details();
   System.out.println("\n\nPress Enter to Go Back.");
   ent=s.nextLine();
   break;
   case 2: D.Details();
   System.out.println("\n\nPress Enter to Go Back.");
   ent=s.nextLine();
   break;
   case 3: E.Details();
   System.out.println("\n\nPress Enter to Go Back.");
   ent=s.nextLine();
   break;
   case 4: C.Details();
   System.out.println("\n\nPress Enter to Go Back.");
   ent=s.nextLine();
   break;
   case 5: B.Details();
   System.out.println("\n\nPress Enter to Go Back.");
```

```
                    ent=s.nextLine();
                    break;
                    case 6: System.exit(0);
                    break;
                    default: System.out.println("Invalid Entry!!!");
                }
            }while(ch!=6);}
        else if(username.equals("student_xie") && password.equals("sem4_2020"))
        { System.out.println("Login Successful!!!");
            System.out.println("\n\nPress Enter to Continue.");
            eps=s.nextLine();
            do
            {
                Scanner sc=new Scanner(System.in);
                Maths4 F =new Maths4();
                LIC H =new LIC();
                PCE G =new PCE();
                Micro Z =new Micro();
                SandS I =new SandS();
                float m,n;
                double res;
                System.out.println("\fWelcome to Semister 4");
                System.out.println("You have these subjects this Semister:");
                System.out.println(" 1. Engineering Mathematics-IV");
                System.out.println(" 2. Linear Integrated Circuits");
                System.out.println(" 3. Microcontrollers");
                System.out.println(" 4. Principles of Communication Engineering");
                System.out.println(" 5. Signals & Systems");
                System.out.println(" 6. Exit");
                System.out.println("entry the number across each subject to know more");
```

```
                ch=sc.nextInt();
                String ent;
                switch(ch)
                {
                   case 1: F.Details();
                   System.out.println("\n\nPress Enter to Go Back.");
                   ent=s.nextLine();
                   break;
                   case 2: H.Details();
                   System.out.println("\n\nPress Enter to Go Back.");
                   ent=s.nextLine();
                   break;
                   case 3: Z.Details();
                   System.out.println("\n\nPress Enter to Go Back.");
                   ent=s.nextLine();
                   break;
                   case 4: G.Details();
                   System.out.println("\n\nPress Enter to Go Back.");
                   ent=s.nextLine();
                   break;
                   case 5: I.Details();
                   System.out.println("\n\nPress Enter to Go Back.");
                   ent=s.nextLine();
                   break;
                   case 6: System.exit(0);
                   break;
                   default: System.out.println("Invalid Entry!!!");
                }
              }while(ch!=6);}
            else if(!username.equals("student_xie"))
              throw new UsernameException("Incorrect username\nType correct
username ???");
            else if(!password.equals("sem3_2020 && sem4_2020"))
```

```
                throw new PasswordException("Incorrect password\nType correct password ???");
            }
            catch (UsernameException u) {
               u.printStackTrace();
            }
            catch (PasswordException p) {
               p.printStackTrace();
            }
            finally {
            }

        }
    }
```

3.2 The different packages and class used and their codes.

3.2.1 package_Sem3

```
 package package_Sem3;
public interface Sem3
{
public abstract void Details();
}
```

3.2.2 NT

```
package package_Sem3;
public class NT implements Sem3
{
public void Details()
{
System.out.println("Modules for Network Theory are:-");
System.out.println("Module 1 - Electrical circuit analysis ");
System.out.println("Module 2 - Graph Theory ");
```

```
System.out.println("Module 3 - Time and frequency domain analysis ");
System.out.println("Module 4 - Network functions ");
System.out.println("Module 5 - Two port Networks ");
System.out.println("Module 6 - Synthesis of RLC circuits ");
}
}
```

3.2.3 Math3

```
package package_Sem3;
public class Math3 implements Sem3
{
public void Details()
{
System.out.println("Modules for Engineering Mathematics-III are:-");
System.out.println("Module 1 - Laplace Transform ");
System.out.println("Module 2 - Inverse Laplace Transform ");
System.out.println("Module 3 - Fourier Series ");
System.out.println("Module 4 - Complex Variables ");
System.out.println("Module 5 - Linear Algebra: Matrix Theory ");
System.out.println("Module 6 - Vector Differentiation and Integral");
}
}
```

3.2.4 DSD

```
package package_Sem3;
public class DSD implements Sem3
{
public void Details()
{
System.out.println("Modules for Digital System Design are:-");
System.out.println("Module 1 - Number Systems and Codes ");
System.out.println("Module 2 - Logic Family and Logic Gates ");
System.out.println("Module 3 - Combinational Logic Circuits ");
```

```
System.out.println("Module 4 - Sequential Logic Circuits ");
System.out.println("Module 5 - Different Types of Memories and Programmable Logic Devices ");
System.out.println("Module 6 - Introduction to VHDL ");
}
}
```

3.2.5 EIC

```
package package_Sem3;
public class EIC implements Sem3
{
public void Details()
{
System.out.println("Modules for Electronic Instrumentation & Control Systems are:-");
System.out.println("Module 1 - Principle of Measurement, Testing and Measuring instruments ");
System.out.println("Module 2 - Sensors and Transducers ");
System.out.println("Module 3 - Introduction to control system Analysis ");
System.out.println("Module 4 - Response of control system ");
System.out.println("Module 5 - Stability Analysis in Time Domain ");
System.out.println("Module 6 - Stability Analysis in frequency domain ");
}
}
```

3.2.6 EDC

```
package package_Sem3;
public class EDC implements Sem3
{
public void Details()
{
System.out.println("Modules for Electronic Devices & Circuits are:-");
System.out.println("Module 1 - Introduction of Electronic Devices ");
```

```
System.out.println("Module 2 - Biasing Circuits of BJTs and MOSFETs ");
System.out.println("Module 3 - Small Signal Amplifiers ");
System.out.println("Module 4 - Frequency response of Small signal Amplifiers
");
System.out.println("Module 5 - Large Signal Amplifiers ");
System.out.println("Module 6 - Introduction to Differential Amplifiers ");
}
}
```

3.2.7 package_Sem4

```
package package_Sem4;
public interface Sem4
{
public abstract void Details();
}
```

3.2.8 SanS

```
public class SandS implements Sem4
{
public void Details()
{
System.out.println("Signals and Systems:-");
System.out.println("Module 1 - Introduction to signals and systems ");
System.out.println("Module 2 - Time domain analysis of Continuous Time and
Discrete Time systems ");
System.out.println("Module 3 - Fourier Analysis of Continuous and Discrete
Time Signals and Systems");
System.out.println("Module 4 - Laplace Transform and Continuous time LTI
systems");
System.out.println("Module 5 - z-Transform and Discrete time LTI systems");
System.out.println("Module 6 - FIR and IIR systems");
}
}
```

3.2.9 PCE

```
package package_Sem4;
public class PCE implements Sem4
{
public void Details()
{
System.out.println("Principles of Communication Engineering:-");
System.out.println("Module 1 - Basics of Communication System");
System.out.println("Module 2 - Amplitude Modulation and Demodulation");
System.out.println("Module 3 - Angle Modulation and Demodulation");
System.out.println("Module 4 - Radio Receivers");
System.out.println("Module 5 - Analog and Digital Pulse Modulation & Demodulation");
System.out.println("Module 6 - Multiplexing & De-multiplexing");
}
}
```

3.2.10 Micro

```
package package_Sem4;
public class Micro implements Sem4
{
public void Details()
{
System.out.println("Microcontrollers:-");
System.out.println("Module 1 - Overview of Microprocessor based System ");
System.out.println("Module 2 - The Memory Systems");
System.out.println("Module 3 - 8051 Microcontroller ");
System.out.println("Module 4 - 8051 Assembly Language Programming and Interfacing");
System.out.println("Module 5 - ARM7");
```

```
System.out.println("Module 6 - Study 8 bit microcontroller Applications");
}
}
```

3.2.11 Maths4

```
package package_Sem4;
public class Maths4 implements Sem4
{
public void Details()
{
System.out.println("Engineering Mathematics-IV:-");
System.out.println("Module 1 - Complex Integration ");
System.out.println("Module 2 - Statistical Techniques ");
System.out.println("Module 3 - Probability Distributions ");
System.out.println("Module 4 - Linear Algebra: Vector Spaces");
System.out.println("Module 5 - Linear Algebra: Quadratic Forms");
System.out.println("Module 6 - Calculus of Variations");
}
}
```

3.2.12 LIC

```
package package_Sem4;
public class LIC implements Sem4
{
public void Details()
{
System.out.println("Linear Integrated Circuits:-");
System.out.println("Module 1 - Introduction to Operational Amplifier ");
System.out.println("Module 2 - Linear Applications of Operational Amplifier
");
```

```
System.out.println("Module 3 - Non-Linear Applications of Operational Amplifier ");
System.out.println("Module 4 - Timer IC 555 and it’s applications");
System.out.println("Module 5 - Voltage Regulators");
System.out.println("Module 6 - Special Purpose Integrated Circuits");
}
}
```

Chapter 4

Output

4.1 Output received after compilation of codes

Compiling and executing the following codes that were mentioned in chapter 3 the following outputs were received.

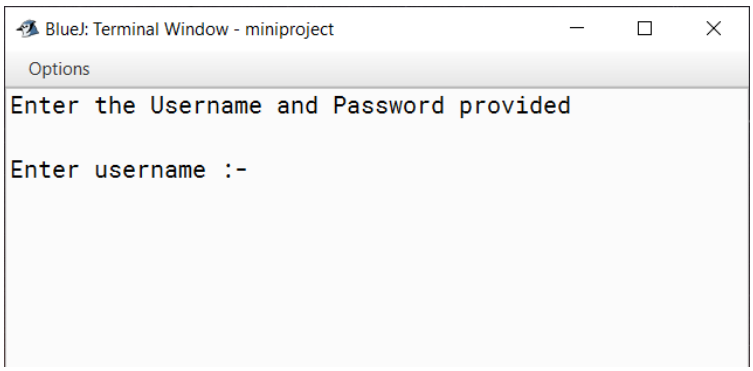

Figure 4.1 Login page

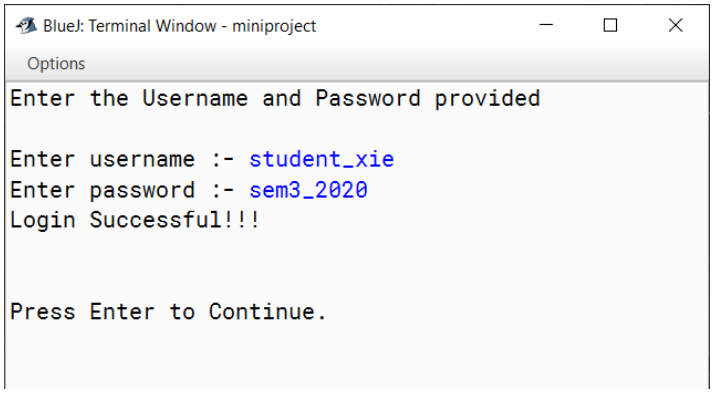

Figure 4.2 Login Successful for Semester 3

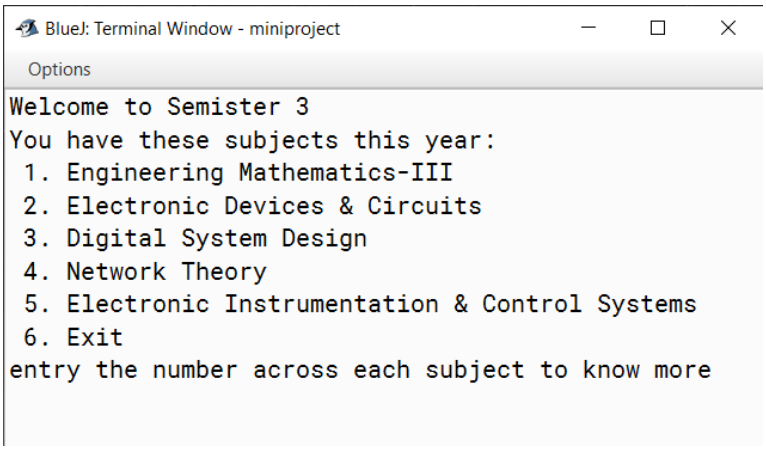

Figure 4.3 Welcome page for Semester 3

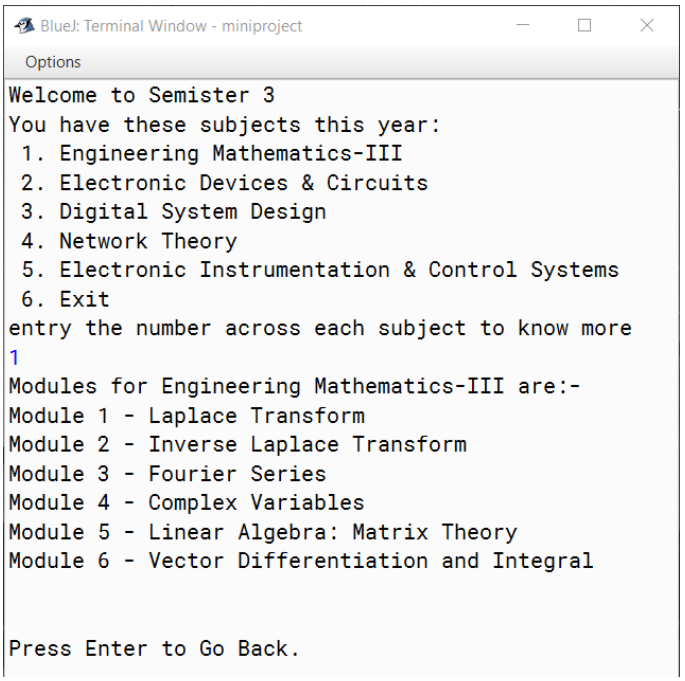

Figure 4.4 Engineering Mathematics III

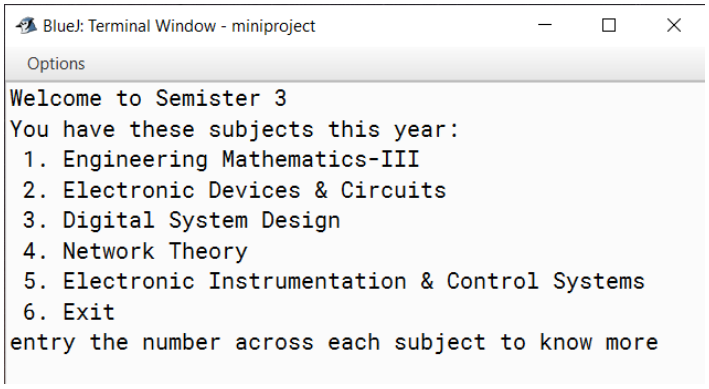

Figure 4.5 Exit Engineering Mathematics III

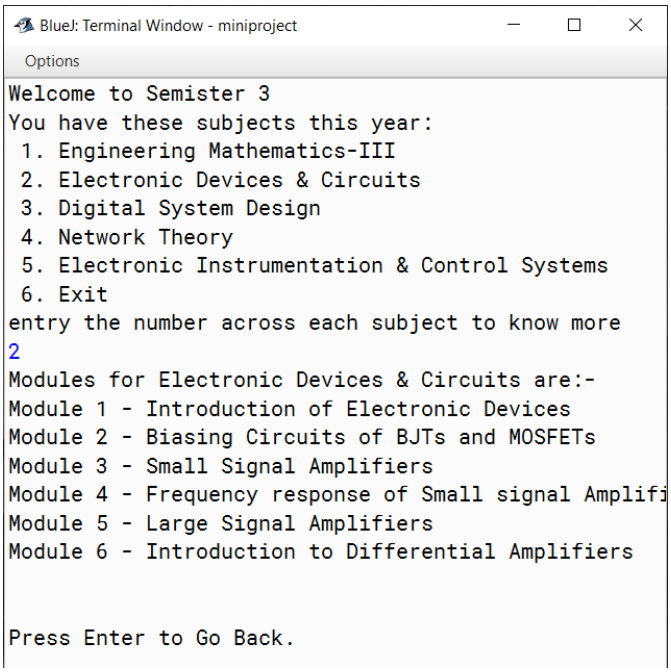

Figure 4.6 Electronic Devices and Circuits

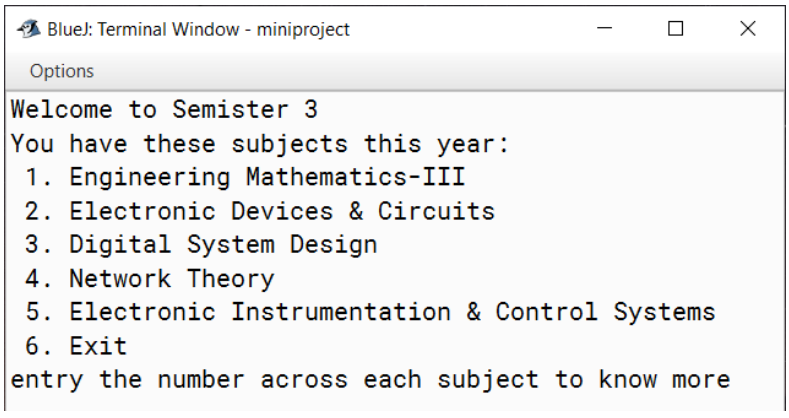

Figure 4.7 Exit Electronic Devices and Circuits

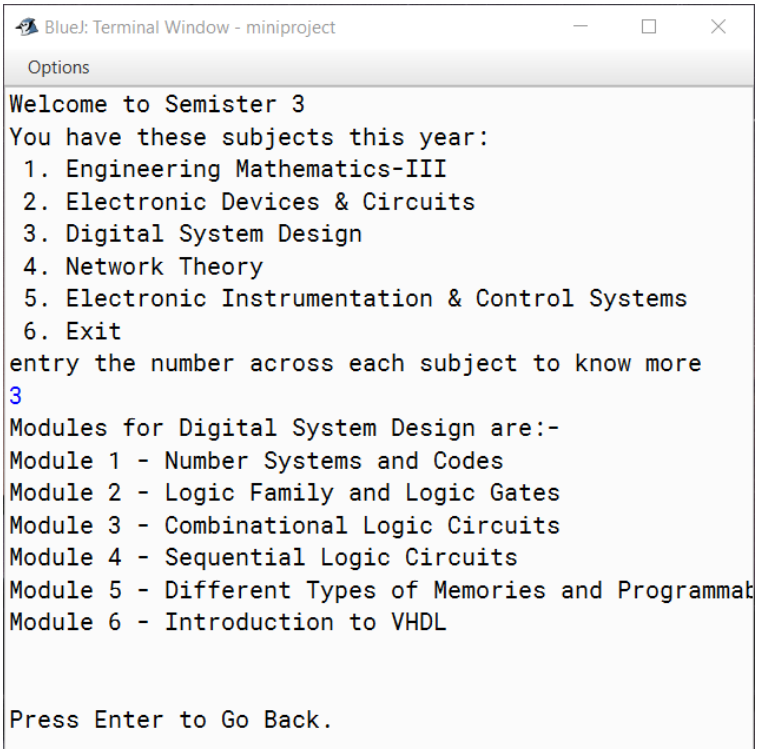

Figure 4.8 Digital System Design

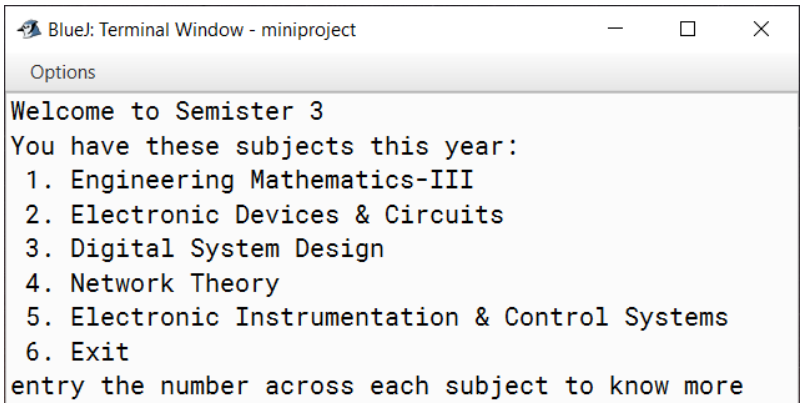

Figure 4.9 Exit Digital System Design

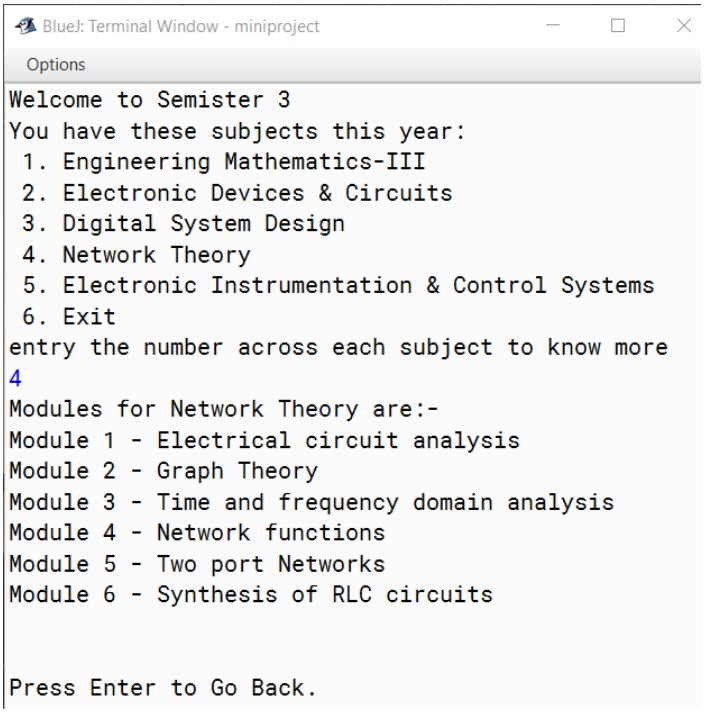

Figure 4.10 Network theory

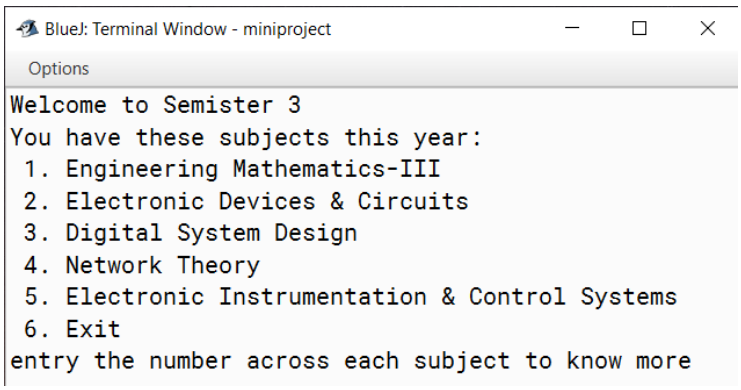

Figure 4.11 Exit Network theory

```
Welcome to Semister 3
You have these subjects this year:
 1. Engineering Mathematics-III
 2. Electronic Devices & Circuits
 3. Digital System Design
 4. Network Theory
 5. Electronic Instrumentation & Control Systems
 6. Exit
entry the number across each subject to know more
5
Modules for Electronic Instrumentation & Control Systems are:-
Module 1 - Principle of Measurement, Testing and Measuring instruments
Module 2 - Sensors and Transducers
Module 3 - Introduction to control system Analysis
Module 4 - Response of control system
Module 5 - Stability Analysis in Time Domain
Module 6 - Stability Analysis in frequency domain


Press Enter to Go Back.
```

Figure 4.12 Electronic Instrumentation & Control Systems

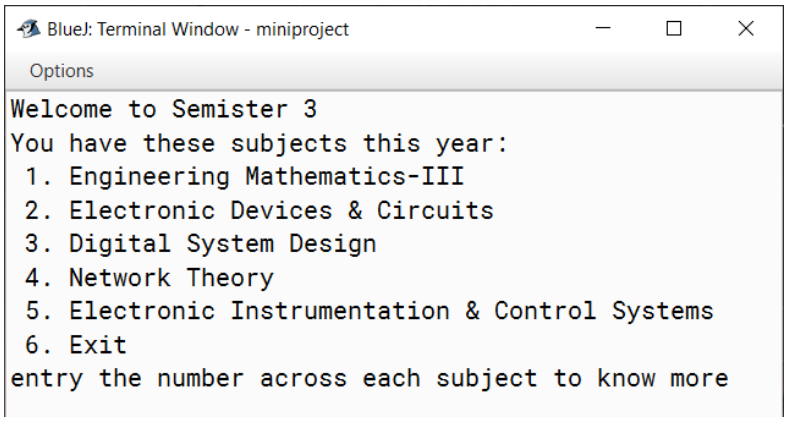

Figure 4.13 Exit Electronic Instrumentation & Control Systems

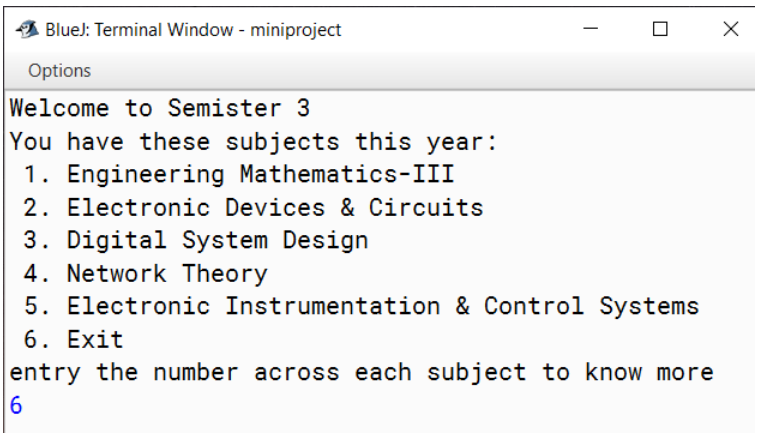

Figure 4.14 Exit Program

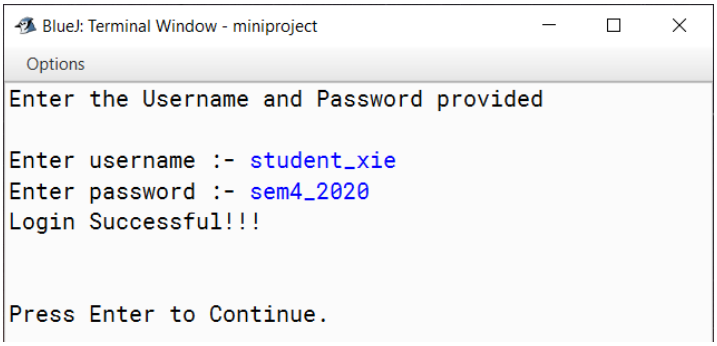

Figure 4.15 Login Successful for Semester 4

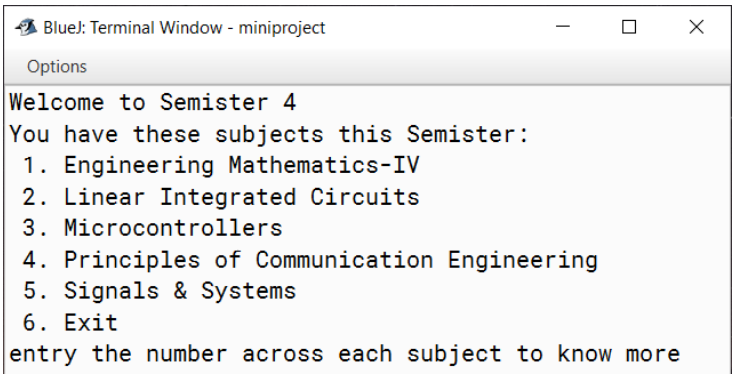

Figure 4.16 Welcome page for Semester 4

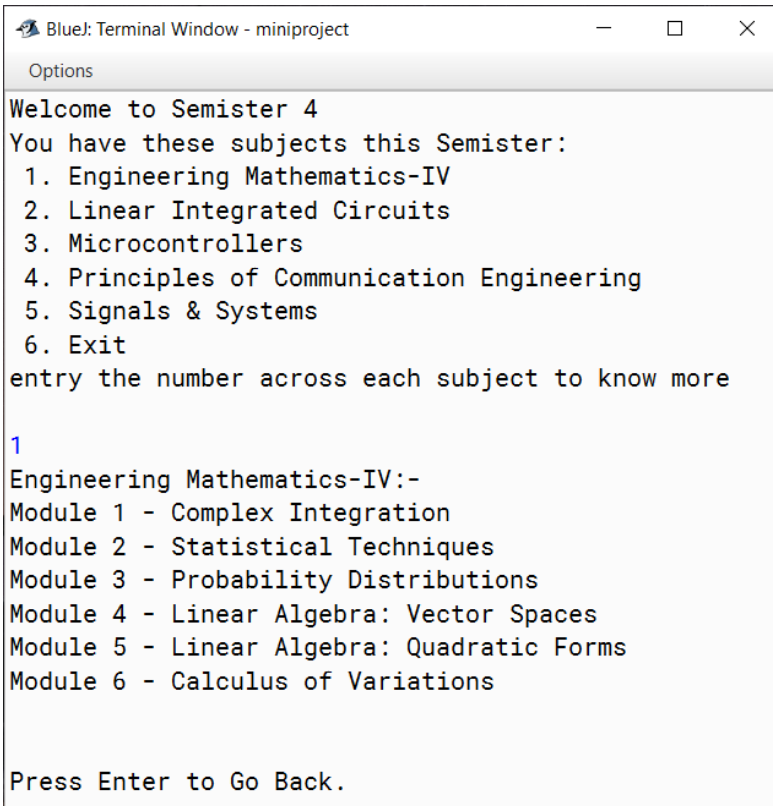

Figure 4.17 Engineering Mathematics-IV

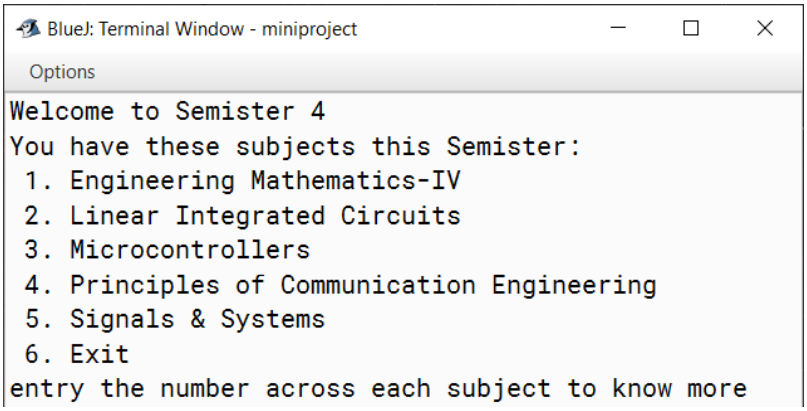

Figure 4.18 Exit Engineering Mathematics-IV

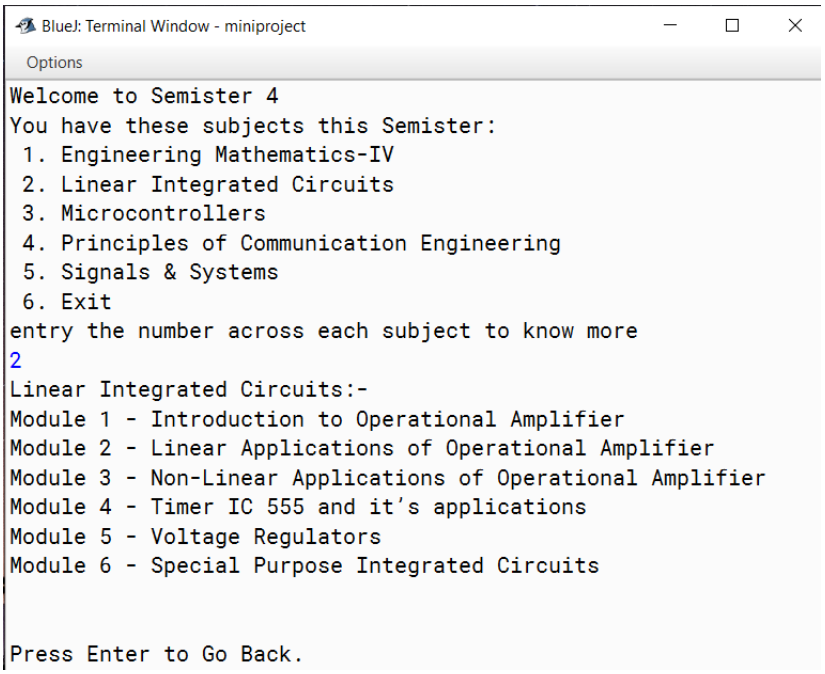

Figure 4.19 Linear Integrated Circuits

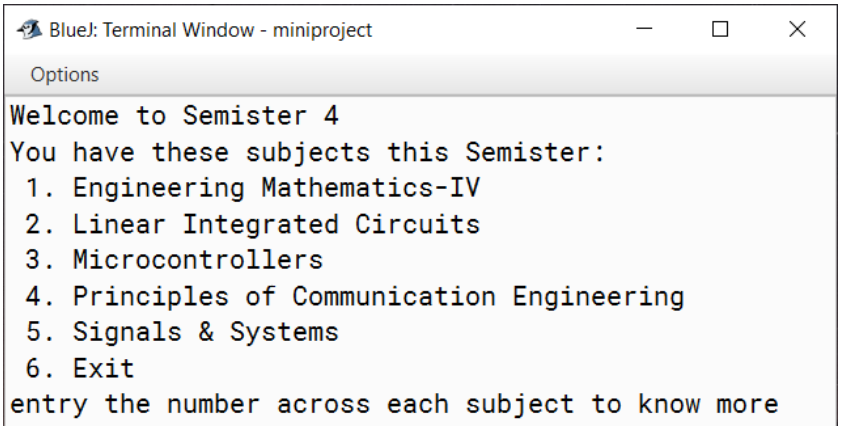

Figure 4.20 Exit Linear Integrated Circuits

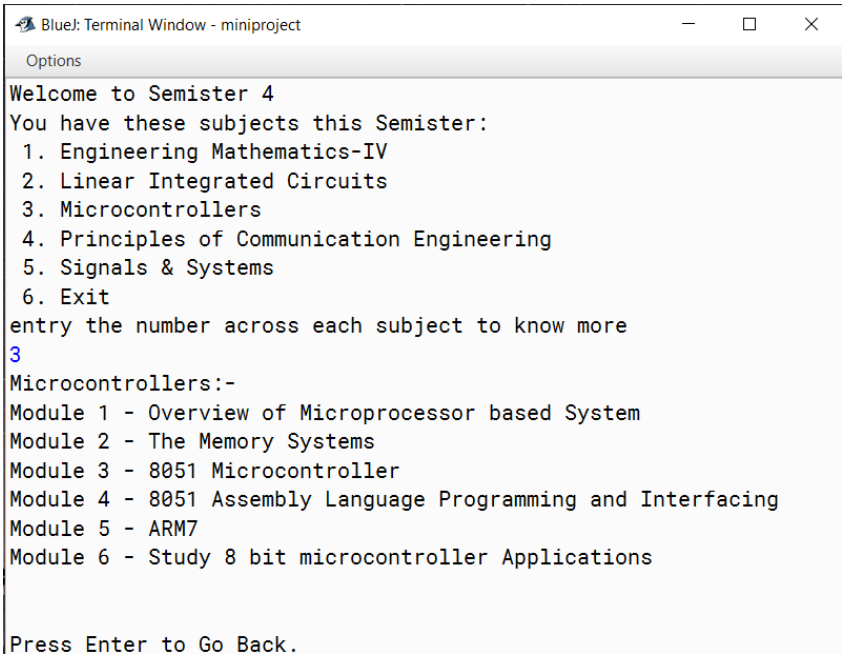

Figure 4.21 Microcontrollers

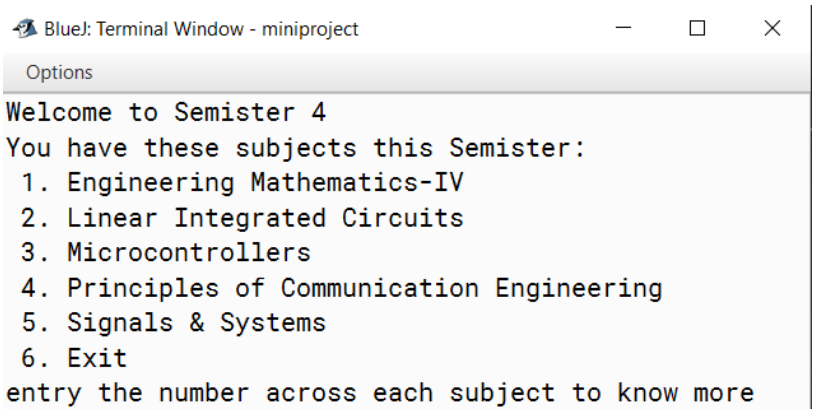

Figure 4.22 Exit Microcontrollers

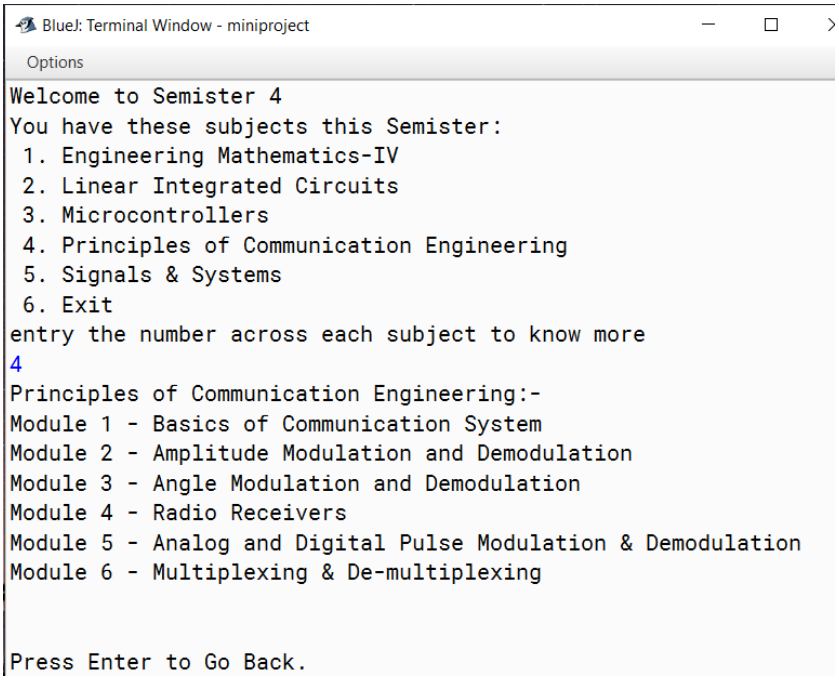

Figure 4.23 Principles of Communication Engineering

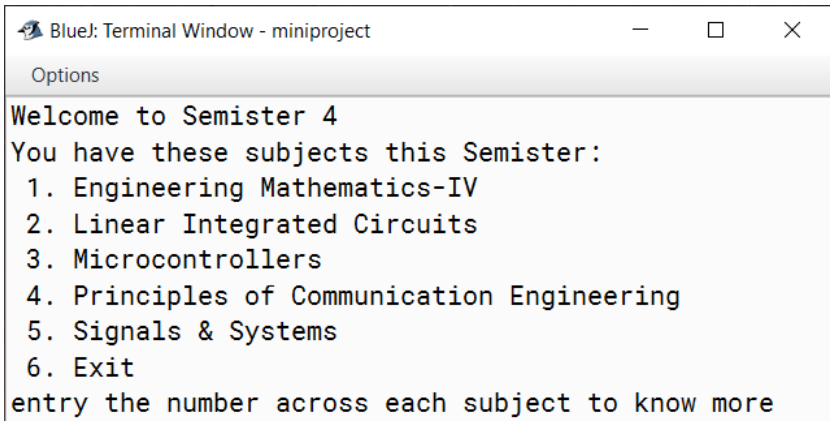

Figure 4.24 Exit Principles of Communication Engineering

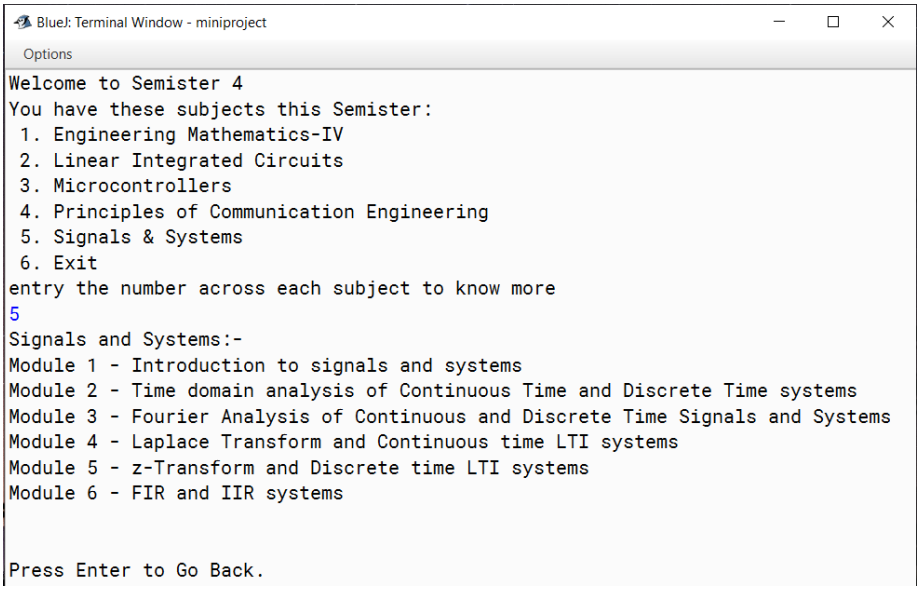

Figure 4.25 Signals & Systems

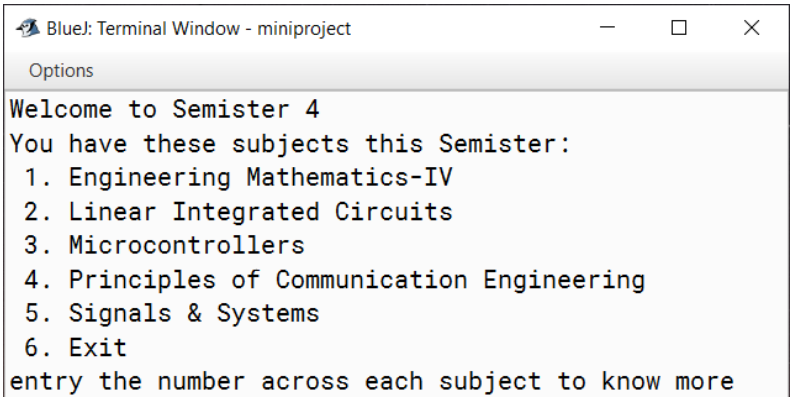

Figure 4.26 Exit Signals & Systems

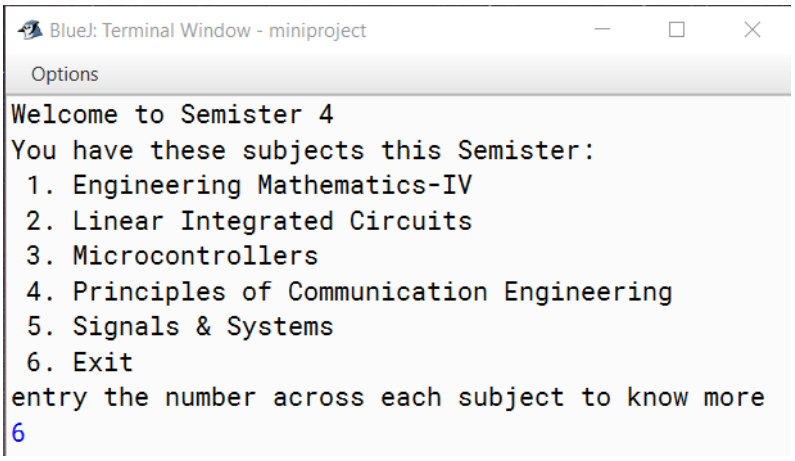

Figure 4.27 Exit Program

```
Enter the Username and Password provided

Enter username :- student
Enter password :- sem3_2020

 Can only enter input while your programming
UsernameException: Incorrect username
Type correct username ???
        at Year_2.main(Year_2.java:142)
        at __SHELL2.run(__SHELL2.java:6)
```

Figure 4.28 Incorrect Username Exception

```
Enter the Username and Password provided

Enter username :- student_xie
Enter password :- sem2

 Can only enter input while your programming is r
PasswordException: Incorrect password
Type correct password ???
        at Year_2.main(Year_2.java:144)
        at __SHELL3.run(__SHELL3.java:6)
        at java.base/jdk.internal.reflect.Native
```

Figure 4.29 Incorrect Password Exception

Chapter 5

Conclusion

In this report we gave an overview of our project “Syllabus Display System” using Java. Using the mentioned concepts, the following codes were written and then compiled and executed.

BlueJ IDE played an important role in the project (Coding, Compiling and Execution) as it was the software, we preferred to use giving almost instant results that were expected.

REFERENCES

[1] sanfoundry.com, https://www.sanfoundry.com/java-program-illustrate-how-user-authentication-done/#:~:text=Enter%20username%20and%20password%20as,how%20User%20Authentication%20is%20Done.

[2] Java Point, https://www.javatpoint.com/package

[3] Java Point, Java Point, https://www.javatpoint.com/package