TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

PULCHOWK CAMPUS

A Course Project Submitted to the Department of Electronics And Computer Engineering in partial fulfillment of the requirements for the practical course on Computer Programming [CT 401]

CHEMICAL NEPAL

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Institute of Engineering

TABLE OF CONTENTS   **PAGE NO:**

ACKNOWLEDGEMENT

I extend my heartfelt gratitude and appreciation to all those who have contributed to the successful completion of this C programming project focusing on chemical engineering in the context of Nepal.

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We are deeply indebted to the faculty members of the Pulchowk Engineering Campus for providing me with a conducive learning environment and resources to enhance my understanding of both chemical engineering principles and programming techniques.

We are also grateful to my classmates and friends for their stimulating discussions, shared insights, and camaraderie. Our exchange of ideas has played a crucial role in refining the concepts and approaches presented in this project.

We are thankful to our family for their constant encouragement, understanding, and patience throughout this endeavor. Their unwavering support has been a source of motivation during the challenging phases of this project.

Last but not least, We express our gratitude to the people of Nepal for inspiring me with their resilience, culture, and determination. This project is a humble attempt to contribute to the field of chemical engineering while being mindful of the unique challenges and opportunities presented by Nepal's context.

In conclusion, this project would not have been possible without the collective support, guidance, and inspiration of all the aforementioned individuals and entities. While any remaining errors or shortcomings are solely mine, their contributions have played an integral role in shaping this work.

ABSTRACT

The project's primary objective is to create a user-friendly software application that allows students to explore complex chemical engineering principles in a hands-on manner.

The project strives to develop an interactive software tool that enhances the learning experience by offering practical simulations and visualizations of key chemical engineering concepts as taught in the Nepalese curriculum. The outcome of this project is a dynamic educational tool that empowers students to engage with the chemical engineering syllabus in a more interactive and meaningful way. By merging programming and chemical engineering, the project showcases the potential of technology to enhance the learning experience and foster a deeper comprehension of complex subjects.

In conclusion, this C programming project represents a significant step towards augmenting chemical engineering education in Nepal. By providing students with a platform to experiment and visualize, it contributes to producing a new generation of engineers equipped with both theoretical knowledge and practical skills to address the challenges of Nepal's chemical engineering landscape.

INTRODUCTION

This C programming project aims to bridge the gap between theoretical learning and practical implementation within the chemical engineering syllabus of Nepal. The project strives to develop an interactive software tool that enhances the learning experience by offering practical simulations and visualizations of key chemical engineering concepts as taught in the Nepalese curriculum.

The project's primary objective is to create a user-friendly software application that allows students to explore complex chemical engineering principles in a hands-on manner. By utilizing computer programming techniques, the project seeks to provide students with a platform to experiment with various theoretical concepts, simulate chemical processes, and visualize the outcomes.

In conclusion, this C programming project represents a significant step towards augmenting chemical engineering education in Nepal. By providing students with a platform to experiment and visualize, it contributes to producing a new generation of engineers equipped with both theoretical knowledge and practical skills to address the challenges of Nepal's chemical engineering landscape.

OBJECTIVES

The specific objective of our project is:

1) To develop chemical engineering software based on C programming, that can aims to enhance the educational experience of chemical engineering students in Nepal by merging the power of computer programming with the intricacies of the syllabus.
2) To design the software to engage students and spark their interest in chemical engineering.

Algorithm

Main function

1.start

2.display topic

3.display objectives

4.call the sub function functions

5.stop

Void function

1.start

2.declare the choice

3.declare the variables

4.display the name of the functions

5.use of while function to display time delayed message ("Enter your choice(1/2/3/4/5)")

6. read the choice

7.switch

Case 1:

a.Introduction

break;

case 2:

b.Chemical engineers in Nepal

break;

case 3:

c.Academics

break;

case 4:

application and scope

break

case 5

exit

default:

display error message

8. close switch case

9. stop

Void introduction

1.start

2.declare variables

3.display the topic chemical engineering

4.display the introduction

4.display the conical flask pattern

5. use of while function to display time delayed message ("Enter your choice(1/2)")

6.display the main menu and exit

7. switch statement

Case 1

Call functions

Break;

Case2

Exit the function

Break;

Default

Error

8.End

Void chemical engineers in Nepal

1.Start

2.declare variables

3.declare structures

4.enter the variables fc , j , i

5.enter struct engineers

6.create a file fp

7.open the file

8.use if statement

if (fp is equal to null) display file cannot be opened

9 use for loop

10 store name , gender, address, university , pass out year

11 use of while function to display time delayed message ("Enter your choice(1/2)")

12.Display non native graduate

13.Display TU ,IOE

14.Display KU SOE Gradauate

Use switch statement

Case 1:

Display

Break:

Case 2

Display

Break:

Case 3

Display

Break:

Default

Display

15. End

Void academics

1.Start

2.Declare variables a1,I

3.Declare str

4.Use of while function to display time delayed message ("Enter your choice(1/2)")

5.use switch statement

case 1:

display chemical engineering course detail (TU,IOE)

case 2:

display chemical engineering syllabus (KU,SOE)
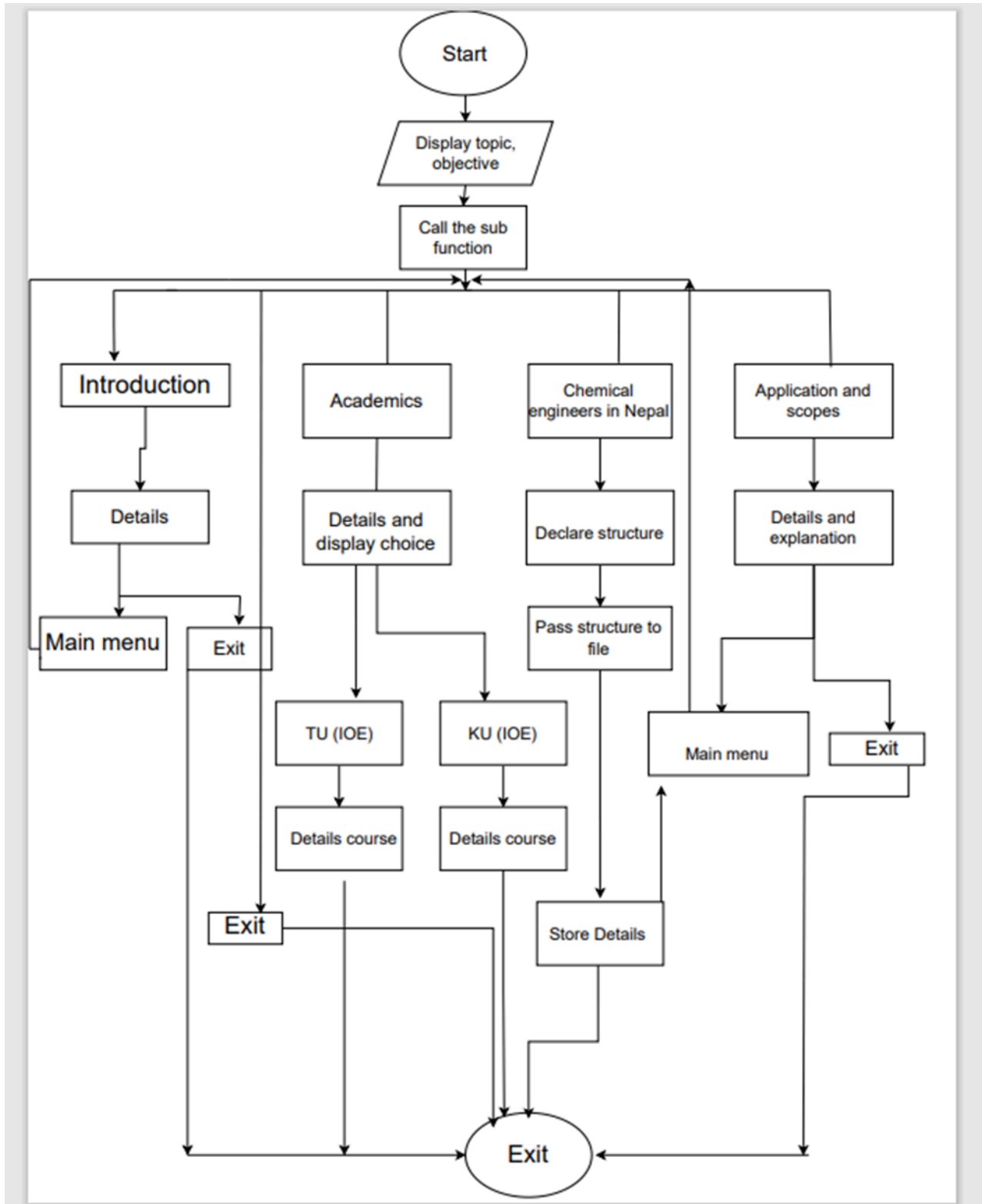
default

display error enter valid option

6.End

Void application and scope

1.Start

2.declare the variable choice

3.display the scope and application of chemical engineers in Nepal

4.display go to main menu

5.if statement

6.call functions

7.End

Main function

1.Start

2.Declare variable ch

3.Display Chemical Nepal

4.Call function

5.End

FLOWCHART

SOURCE CODE

```c
#include <stdio.h>

#include<string.h>

/*void introduction(void);

void chemical_engineers_in_nepal(void);

void academics(void);

void exit(void);

void applications_and_scope(void);*/


void functions()
{
char *str = "ENTER YOUR CHOICE(1/2/3/4/5):";

int i,ch;

printf("\n1.Introduction\n2.Chemical Engineers in Nepal\n3.Academics\n4.Applications and Scope\n5.Exit\n\n\n");

while (str[i] != '\0')
{
putchar(str[i]);

usleep(100000);
```

```c
        i++;
    }

    scanf("%d",&ch);
    switch(ch)
    {
        case 1:
            introduction();
            break;
        case 2:
            chemical_engineers_in_nepal();
            break;
        case 3:
            academics();
            break;
        case 4:
            applications_and_scope();
            break;
```

```c
case 5:

exit(1);

break;


default:

printf("ERROR!!!\t\tEnter valid option");

functions();

}

}


void introduction()

{

int f1,i;

printf("\t \t \t \t \t CHEMICAL ENGINEERING \t");

printf("\n\n Chemical engineering is a discipline influencing numerous areas of technology. In broad terms, chemical engineers conceive and design processes to produce, transform, and transport materials: beginning with experimentation in the laboratory followed by the implementation of the technology in full-scale production.");
```

printf("\n\n Our country Nepal is one of the most resource rich nations in Asia. In spite of this we are not able to convert this into monetary gain. Recource wise our country is rich yet economically and geopolitically we remain poor. For example our nation has become a victim of marcantalism, a practice where a weaker country exports its raw recources and imports processed goods made from those raw recources from more able, industry rich countries. For example, Nepali sugar cane is exported abroad and sugar is imported at a hefty price. Given these circumstances the scope of Chemical Engineering is huge. With proper research and proper manpower from our own country, we could process sugar cane into sugar in our own home soil.");

printf("\n\n Though engineering in Nepal is relatively new program, it is one of the most popular course choices for young people. Institute of Engineering, Nepal's primary engineering institute was founded in 1972 and it is a part of Tribhuvan University, Nepal's oldest university. Since then the institute has introduced numerous programs such as Mechanical engineering and Aerospace Engineering. Chemical Engineering is the IOE's youngest department, founded in 2076 BS.");

printf("\n\nChemical Engineering is provided as a course by two of Nepal's biggest enginnering colleges: Pulchowk Engineering Campus and Kathmandu University.\n");

```c
        printf("    # # \\  \\ \n");
        printf("    # # \\  \\ \n");
        printf("    # #  \\  \\ \n");
        printf("    #   #  \\  \\ \n");
        printf("    #     #  \\  \\ \n");
        printf("  #       #   \\___\\ \n");
        printf(" #         #     \n");
        printf(" #           #     \n");
        printf(" #             #     \n");
        printf("##################");

        printf("\n\n1.Main Menu\n2.Exit\n\n");
        printf("ENTER YOUR CHOICE(1/2):");

        scanf("%d",&f1);
        switch(f1)
        {
            case 1:
            functions();
            break;
```

```c
        case 2:
            exit(1);
            break;

        default:
            printf("Error!! Enter valid option");
        }
    }


void chemical_engineers_in_nepal()
{
    int fc,j,i;
    char *str = "ENTER YOUR CHOICE(1/2/3):";
    struct engineers
    {
        char ename[40];
        char gender[10];
        char address[50];
        char university[40];
```

```c
    int passout_year;
}e[10];


FILE *fp;
fp=fopen("engineers.txt","w+");
if(fp==NULL)
{
printf("File cannot be opened!");
}


for(j=0;j<10;j++)
{
printf("\nName:");
scanf(" %[^\n]",e[j].ename);
printf("\nGender:");
scanf(" %[^\n]*c",e[j].gender);
printf("\nAddress:");
scanf(" %[^\n]*c",e[j].address);
printf("\nUniversity:");
scanf(" %[^\n]*c",e[j].university);
```

```c
        printf("\nPass out Year:");
        scanf("%d",&e[j].passout_year);
    }
    fwrite(&e,sizeof(e),10,fp);


    printf("\n\nBasically over the past many years there have been many chemical engineering graduates in Nepal. Although in the beginning years they graduated from out of the country, we have the data of all of them:  ");
    printf("\n\n1.Non-Native Graduates\n2.TU,IOE Graduates\n3.KU,SOE Graduates\n\n");
    while (str[i] != '\0')
    {
        putchar(str[i]);
        usleep(100000);
        i++;
    }
    scanf("%d",&fc);
    switch(fc)
    {
```

```c
        case 1:
            printf("Enter the ");
            break;
        case 2:
            printf("");
            break;
        case 3:
            printf("No any batch has yet graduated from TU,IOE");
            printf("But we are here to collect the data of onging undergrads!");
            break;
        default:
            printf("\n\nERROR!!\t\tEnter valid option:");
            chemical_engineers_in_nepal();
    }
}
void academics()
{
    int choice;
    int i,a1,k;
```

```c
char *str = "ENTER YOUR CHOICE(1/2):";
printf("\n\nFollowing are the academics that provide the Chemical Engineering degree in Nepal:");
printf("\n1.TU,IOE\n2.KU,SOE\n");
while (str[i] != '\0')
{
putchar(str[i]);
usleep(100000);
i++;
}
scanf("%d",&a1);
switch(a1)
{
case 1:
printf("Chemical Engineering Course detail (TU,IOE");
printf("First Semester ");
printf("\nEngineering Mathematics I  \T         100");
printf("\nEngineering Chemistry    \n\t         150");
printf("\nC Programming           150   ");
printf("\nBasic Electronics Engineering             125");
```

```c
printf("\nBasic Electrical Engineering          125");
printf("\nEngineering Drawing I          100");


printf("Second Semester \n");
printf("\nEngineering Mathematics    II       100\n");
printf("\nEngineering Physics    \n\t          150");
printf("\nComputer Aided Drawing          100  ");
printf("\nBasic Organic Chemistry          150");
printf("\nWorkshop Technology          50");
printf("\nApplied Mechanics          100");


printf("Third Semester \n");
printf("\nEngineering Mathematics    III       100\n");
printf("\nCommunication English   \n\t          125");
printf("\nBiochemistry          100  ");
printf("\nBasic Physical Chemistry          150");
printf("\nChemical Process Calculation          100");
printf("\nFluid Mechanics          125");
```

```c
printf("Fourth Semester \n");
printf("\nNumerical Methods      150\n");
printf("\nThermodynamics  I \n\t          100");
printf("\nChemical Process Industries I    100  ");
printf("\nHeat Transfer              125" );
printf("\nEngineering Methods          100");
printf("\nEngineering Science & Pollution Control      125");


printf("Fifth  Semester \n");
printf("\nProbability and Statistics      100\n");
printf("\nThermodynamics  II \n\t          100");
printf("\nMass Transfer I    150  ");
printf("\nChemical Process Industries II          100");
printf("\nMechanical Operation          150");
printf("\nChemical Reaction Engineering I      100");
```

```c
printf("Sixth Semester \n");
printf("\nChemical Engineering and Design I      100\n");
printf("\nInstrumentatio and Process Control \n\t          125");
printf("\nElective  I    125  ");
printf("\nMass Transfer II          100" );
printf("\nFood and Beverage        100");
printf("\nChemical Reaction Engineering II     125");


printf("Seventh Semester \n");
printf("\nChemical Engineering and Design II\t100\n");
printf("\nElectives  II \n\t\t125");
printf("\nModeling and Simulation in Chemical Engineering\t125
");
printf("\nMaintenance Engineering and Safety  100" );
printf("\nProcess Economics and Plant Design 100");
printf("\nProjectI     50");
printf("\nIndustrial and Institutional Attachement   100");
```

```c
printf("Eight Semester\n");
printf("\nEngineering Professional Practice     50\n");
printf("\nBiochemical Engineering\t          125");
printf("\nElectives III     125  ");
printf("\nMines ,Fuels and Energy  125" );
printf("\nTransport Phenomena 125");
printf("\nProject II      100");


printf("Electives:");
printf("I.Nano Technology/Construction Materials/Electrochemical and Renewable Energy");
printf("II.Pharmaceuticals  Engineering /Mining and Mineral Engineering");
printf("III.Polymer Engineering/Corrosion Science and Engineering /Explosive and Blasting Technology");
break;


case 2:
```

```c
printf("Chemical Engineering Syllabus (KU,SOE)\n\n");


printf ("First Semester");
printf("\n General Chemistry ");
printf("\n Computer  Programming");
printf("\nCalculus and Linear Algebra");
printf("\nGeneral  Physics  I");
printf("\nEngineering Drawing I ");
printf("\nElements of Engineering I ");
printf("\nEngineering Project Preparation");


printf("Second Semester");
printf("\nAdvanced Calculus \n");
printf("\nGeneral Physics II\n");
printf("\nObject Oriented Programming");
printf("\nElements of Engineering");
printf("\nTechnical Communication");
printf("\nIntroduction to Environmental Engineering    ");
printf("\nEngineering Drawing II");
printf("\nEngineering Project ");
```

```c
printf("Third Semester");
printf("\nDifferential Equation and Complex Variables     \n");
printf("\nChemical Process and Calculation");
printf("\nEngineering Mathematics");
printf("\nReaction Mechanism and StereoChemistry");
printf("\nBasic Electronics");
printf("\nMaterial Science and Metallurgy       ");
printf("\nChemistry Lab");


printf("Fourth Semester");
printf("\nStatistics and Probability");
printf("\nNumerical Methods");
printf("\nChemical Process Technology I");
printf("\nChemical Engineering Thermodynamics");
printf("\nFluid Mechanics");
printf("\nBiochemical Engineering");
printf("\nEngineering Project");
```

```c
printf("Fifth  Semester");
printf("\nEngineering Economics");
printf("\nThermodynamics  II");
printf("\nHeat  Transfer");
printf("\nChemical Process Technology II");
printf("\nElective");
printf("\nChemical Reaction Engineering I");


printf("Sixth Semester");
printf("\nUnit Operation");
printf("\nModelling and Simulation in Chemical Engineering");
printf("\nInstrumental Analysis");
printf("\nMass Transfer");
printf("\nProcess Equipment Design");
printf("\nChemical Reaction Engineering II");


printf("Seventh Semester");
printf("\nEngineering Management");
printf("\nElective");
printf("\nEntreprenueship Development");
```

```c
        printf("\nTransport Phenomena");

        printf("\nPlant Design");

    printf("\nChemical Process Study");

        printf("\nDesign Lab");


        printf("Eight Semester");

        printf("\nIntership");

        printf("\nProject Work");

        break;


        default:

    printf("ERROR!! Enter valid option:");

        academics();

        }

    printf("\n\n1.Main Menu\n2.Exit\n\n");


        while (str[i] != '\0')

        {

        putchar(str[i]);

        usleep(100000);
```

```c
        i++;
    }
    scanf("%d",&choice);
    switch(choice)
    {
        case 1:
        functions();
        break;
        case 2:
        break;
        default:
        printf("Error!! Enter valid option");
    }
void applications_and_scope()
{
    int choice;
    int i;
    char *str = "ENTER YOUR CHOICE(1/2):";
```

```c
printf("\n\t\t\t\tScope and Application of Chemical Engineers in Nepal\n");

printf("\t\t\t\t----------------------------------------------------\n\n");


printf("Chemical engineering is a diverse field that involves the application of ");
printf("scientific principles to design, develop, and optimize processes that involve ");
printf("the conversion of raw materials into valuable products. In Nepal, chemical ");
printf("engineers play a crucial role in various sectors:\n\n");


printf("1. Manufacturing Industries:\n");
printf("   - Chemical engineers contribute to industries such as cement, ");
printf("food processing, textiles, and more.\n\n");


printf("2. Pharmaceuticals:\n");
printf("   - Chemical engineers are involved in the production of medicines, ");
printf("vaccines, and other pharmaceutical products.\n\n");
```

```c
printf("3. Energy Production:\n");

printf("   - Chemical engineers work on renewable energy sources like ");

printf("biogas and biodiesel production, and they optimize processes in ");

printf("thermal power plants.\n\n");


printf("4. Environmental Protection:\n");

printf("   - Chemical engineers are essential for managing and reducing ");

printf("industrial waste, air pollution control, and water treatment.\n\n");


printf("5. Research and Development:\n");

printf("   - Chemical engineers are involved in research to develop new ");

printf("materials, improve existing processes, and innovate technologies.\n\n");


printf("6. Agriculture and Food Processing:\n");

printf("   - Chemical engineers contribute to the development of fertilizers, ");
```

```c
        printf("processing of food products, and improving crop yield.\n\n");


        printf("7. Government and Regulatory Bodies:\n");
        printf("   - Chemical engineers are employed in government departments ");
        printf("that deal with industrial regulations, safety standards, and ");
        printf("environmental protection policies.\n\n");


        printf("These are just a few examples of the areas where chemical engineers ");
        printf("contribute in Nepal. Their skills in process optimization, material ");
        printf("science, and environmental sustainability are highly valuable.\n\n");


        printf("\n\n1.Main Menu\n2.Exit\n\n");
        while (str[i] != '\0')
        {
        putchar(str[i]);
        usleep(100000);
```

```c
            i++;
        }
    scanf("%d",&choice);
    switch(choice)
        {
        case 1:
            functions();
            break;
        case 2:
            break;
        default:
    printf("Error!! Enter valid option");
        }
    }
```
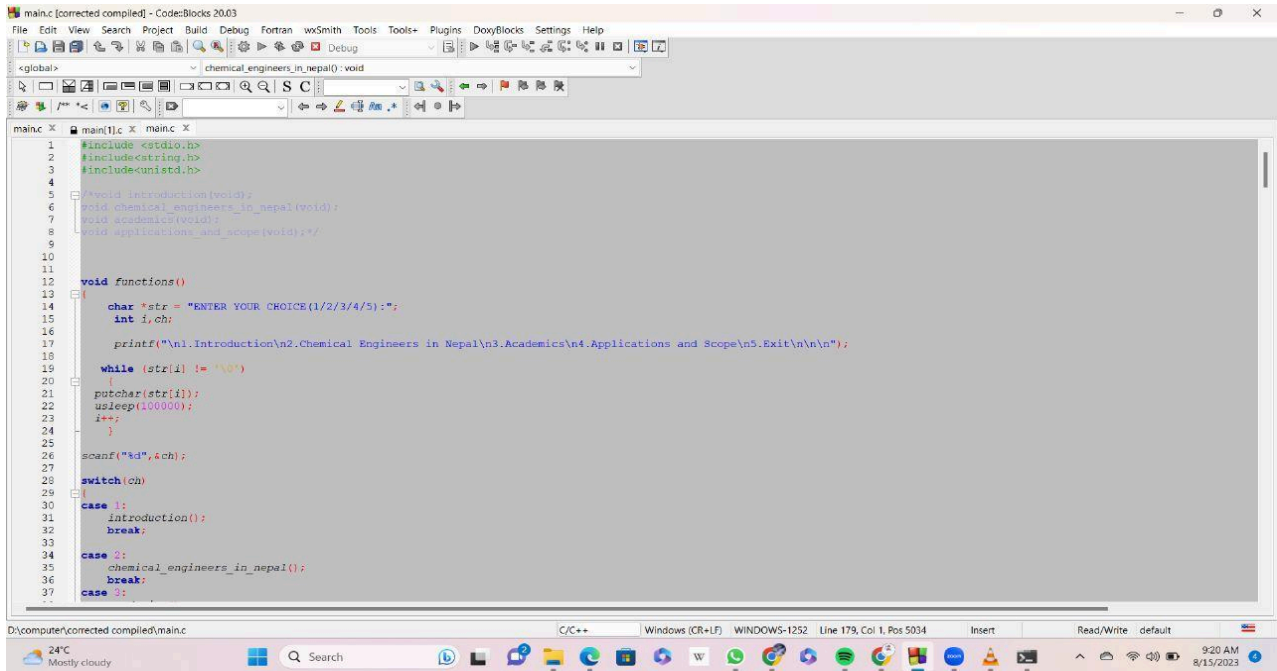
```c
int main()

{


    int ch;

    printf("\t\t\t\t\t\t CHEMICAL NEPAL");

    printf("\n\n\n\t\t This website will let you know all the basics
    about chemical engineering and engineers in NEPAL\n\n\n");

    functions();

    return 0;


}
```

CODE IMAGE


```c
#include <stdio.h>
#include<string.h>
#include<unistd.h>

/*void introduction(void);
void chemical_engineers_in_nepal(void);
void academics(void);
void applications_and_scope(void);*/


void functions()
{
    char *str = "ENTER YOUR CHOICE(1/2/3/4/5):";
    int i,ch;

    printf("\n1.Introduction\n2.Chemical Engineers in Nepal\n3.Academics\n4.Applications and Scope\n5.Exit\n\n\n");

    while (str[i] != '\0')
    {
    putchar(str[i]);
    usleep(100000);
    i++;
    }

scanf("%d",&ch);

switch(ch)
{
case 1:
    introduction();
    break;

case 2:
    chemical_engineers_in_nepal();
    break;
case 3:
```

File   Edit   View   Search   Project   Build   Debug   Fortran   wxSmith   Tools   Tools+   Plugins   DoxyBlocks   Settings   Help

`<global>` | academics() : void

main.c   main[1].c   main.c

```c
177    void academics()
178    {
179        int choice;
180        int i,a1,k;
181        char *str = "ENTER YOUR CHOICE(1/2):";
182
183        printf("\n\nFollowing are the academics that provide the Chemical Engineering degree in Nepal:");
184        printf("\n1.TU,IOE\n2.KU,SOE\n");
185
186        while (str[i] != '\0')
187            {
188        putchar(str[i]);
189        usleep(100000);
190        i++;
191            }
192        scanf("%d",&a1);
193        switch(a1)
194        {
195        case 1:
196
197        printf("Chemical Engineering Course detail (TU,IOE");
198
199        printf("First Semester ");
200        printf("\nEngineering Mathematics I  \T          100");
201        printf("\nEngineering Chemistry    \n\t          150");
202        printf("\nC Programming        150   ");
203        printf("\nBasic Electronics Engineering          125");
204        printf("\nBasic Electrical Engineering      125");
205        printf("\nEngineering Drawing I        100");
206
207        printf("Second Semester \n");
208        printf("\nEngineering Mathematics   II      100\n");
209        printf("\nEngineering Physics   \n\t     150");
210        printf("\nComputer Aided Drawing   100  ");
211        printf("\nBasic Organic Chemistry        150");
```

D:\computer\c-project\main.c   C/C++   Windows (CR+LF)   WINDOWS-1252   Line 446, Col 1, Pos 14764   Insert   Read/Write   default

24°C   Mostly cloudy   Q Search   9:21 AM   8/15/2023

```c
void chemical_engineers_in_nepal()
{
    int fc,j,i;
    char *str = "ENTER YOUR CHOICE(1/2/3):";
    struct engineers
    {
        char ename[40];
        char gender[10];
        char address[50];
        char university[40];
        int passout_year;
    }e[10];

    FILE *fp;
    fp=fopen("engineers.txt","w+");
    if(fp==NULL)
    {
        printf("File cannot be opened!");
    }

    for(j=0;j<10;j++)
    {
        printf("\nName:");
        scanf(" %[^\n]",e[j].ename);
        printf("\nGender:");
        scanf(" %[^\n]*c",e[j].gender);
        printf("\nAddress:");
        scanf(" %[^\n]*c",e[j].address);
        printf("\nUniversity:");
        scanf(" %[^\n]*c",e[j].university);
        printf("\nPass out Year:");
        scanf("%d",&e[j].passout_year);
```
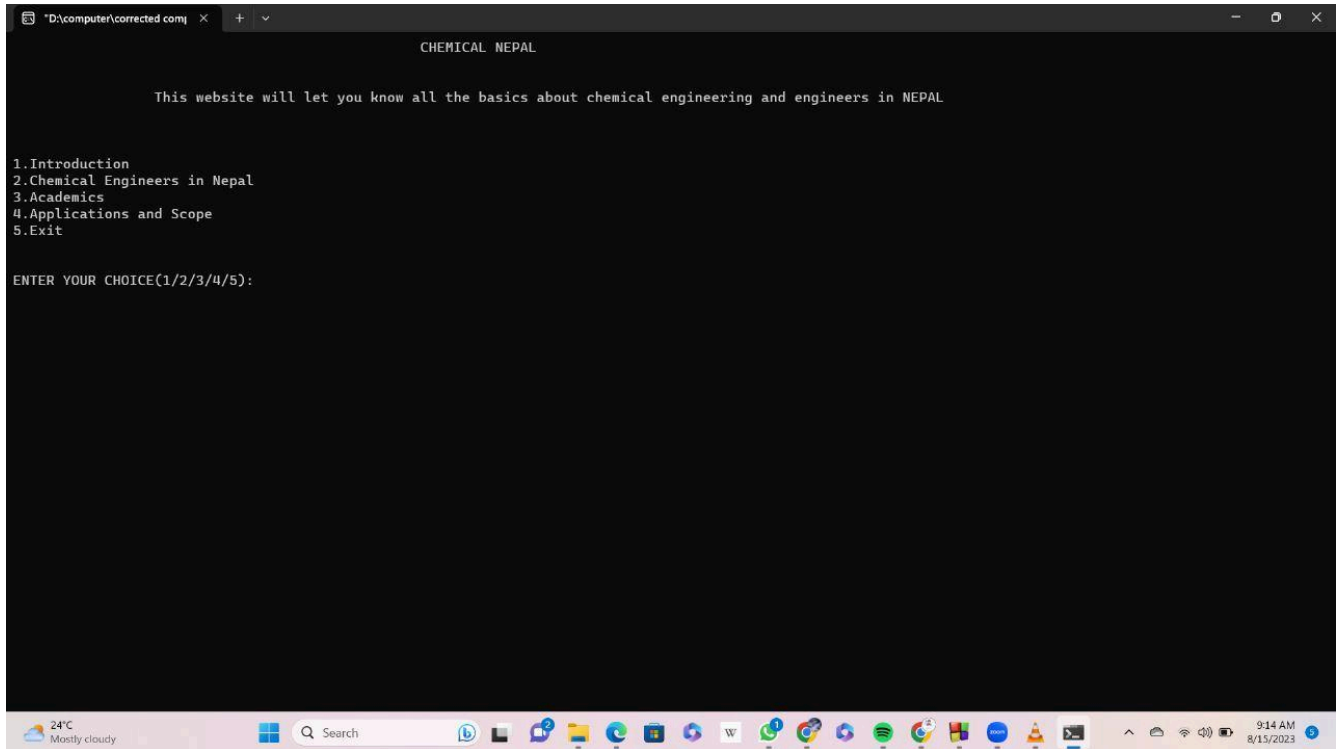
```c
case 2:

    printf("Chemical Engineering Syllabus (KU,SOE)\n\n");

    printf ("First Semester");
    printf("\n General Chemistry ");
    printf("\n Computer  Programming");
    printf("\nCalculus and Linear Algebra");
    printf("\nGeneral  Physics  I");
    printf("\nEngineering Drawing I ");
    printf("\nElements of Engineering I ");
    printf("\nEngineering Project Preparation");

    printf("Second Semester");
    printf("\nAdvanced Calculus \n");
    printf("\nGeneral Physics II\n");
    printf("\nObject Oriented Programming");
    printf("\nElements of Engineering");
    printf("\nTechnical Communication");
    printf("\nIntroduction to Environmental Engineering    ");
    printf("\nEngineering Drawing II");
    printf("\nEngineering Project ");

    printf("Third Semester");
    printf("\nDifferential Equation and Complex Variables      \n");
    printf("\nChemical Process and Calculation");
    printf("\nEngineering Mathematics");
    printf("\nReaction Mechanism and StereoChemistry");
    printf("\nBasic Electronics");
    printf("\nMaterial Science and Metallurgy        ");
    printf("\nChemistry Lab");

    printf("Fourth Semester");
    printf("\nStatistics and Probability");
    printf("\nNumerical Methods");
```

```c
    printf("\n\nBasically over the past many years there have been many chemical engineering graduates in Nepal. Although in the beginning years they graduated
    printf("\n\n1.Non-Native Graduates\n2.TU,IOE Graduates\n3.KU,SOE Graduates\n\n");

    while (str[i] != '\0')
    {
    putchar(str[i]);
    usleep(100000);
    i++;
    }

    scanf("%d",&fc);
    switch(fc)
    {

    case 1:

        printf("Enter the ");
        break;

    case 2:
        printf("");
        break;

    case 3:
        printf("No any batch has yet graduated from TU,IOE");
        printf("But we are here to collect the data of onging undergrads!");
        break;

    default:
        printf("\n\nERROR!!\t\tEnter valid option:");
        chemical_engineers_in_nepal();
```

OUTPUT

Here are some output screenshot attached of our code

This is the home screen of our program. On entering (1/2/3/4) , we get to next screen
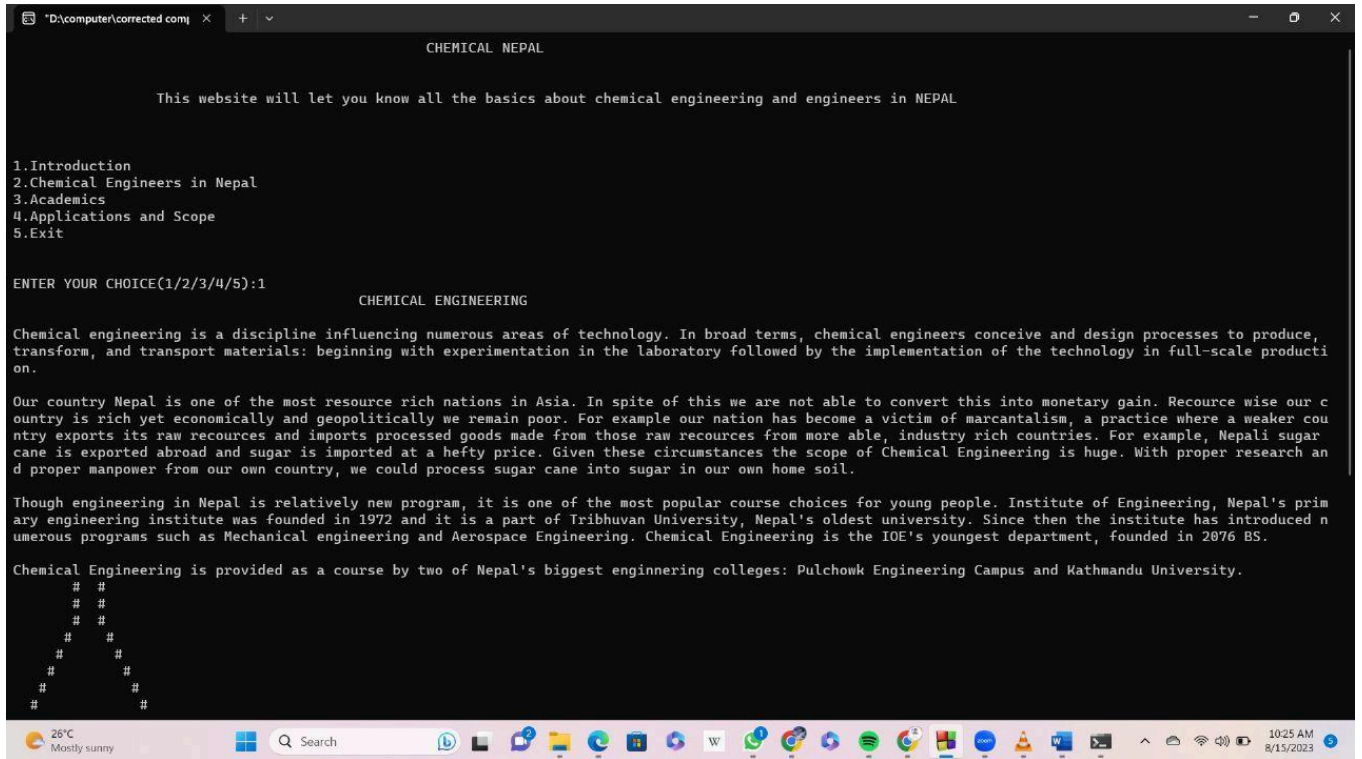
CHEMICAL NEPAL

This website will let you know all the basics about chemical engineering and engineers in NEPAL

1.Introduction
2.Chemical Engineers in Nepal
3.Academics
4.Applications and Scope
5.Exit

ENTER YOUR CHOICE(1/2/3/4/5):1

CHEMICAL ENGINEERING

Chemical engineering is a discipline influencing numerous areas of technology. In broad terms, chemical engineers conceive and design processes to produce, transform, and transport materials: beginning with experimentation in the laboratory followed by the implementation of the technology in full-scale production.

Our country Nepal is one of the most resource rich nations in Asia. In spite of this we are not able to convert this into monetary gain. Recource wise our country is rich yet economically and geopolitically we remain poor. For example our nation has become a victim of marcantalism, a practice where a weaker country exports its raw recources and imports processed goods made from those raw recources from more able, industry rich countries. For example, Nepali sugar cane is exported abroad and sugar is imported at a hefty price. Given these circumstances the scope of Chemical Engineering is huge. With proper research and proper manpower from our own country, we could process sugar cane into sugar in our own home soil.

Though engineering in Nepal is relatively new program, it is one of the most popular course choices for young people. Institute of Engineering, Nepal's primary engineering institute was founded in 1972 and it is a part of Tribhuvan University, Nepal's oldest university. Since then the institute has introduced numerous programs such as Mechanical engineering and Aerospace Engineering. Chemical Engineering is the IOE's youngest department, founded in 2076 BS.

Chemical Engineering is provided as a course by two of Nepal's biggest enginnering colleges: Pulchowk Engineering Campus and Kathmandu University.

On pressing choice 1 ,we get to Introduction

```
Chemical Engineering is provided as a course by two of Nepal's biggest enginnering colleges: Pulchowk Engineering Campus and Kathmandu University.
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1.Main Menu
2.Exit

ENTER YOUR CHOICE(1/2):1

1.Introduction
2.Chemical Engineers in Nepal
3.Academics
4.Applications and Scope
5.Exit

ENTER YOUR CHOICE(
            1/2/3/4/5):2

Basically over the past many years there have been many chemical engineering graduates in Nepal. Although in the beginning years they graduated from out of
the country, we have the data of all of them:

1.Non-Native Graduates
2.TU,IOE Graduates
3.KU,SOE Graduates

ENTER YOUR CHOICE(1/2/3):1

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Press any key to continue.
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On pressing key 2 , we get to the Chemical Engineers in Nepal

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5.Exit

ENTER YOUR CHOICE(1/2/3/4/5):4
                        Scope and Application of Chemical Engineers in Nepal
                        ---------------------------------------------------

Chemical engineering is a diverse field that involves the application of scientific principles to design, develop, and optimize processes that involve the c
onversion of raw materials into valuable products. In Nepal, chemical engineers play a crucial role in various sectors:

1. Manufacturing Industries:
   - Chemical engineers contribute to industries such as cement, food processing, textiles, and more.

2. Pharmaceuticals:
   - Chemical engineers are involved in the production of medicines, vaccines, and other pharmaceutical products.

3. Energy Production:
   - Chemical engineers work on renewable energy sources like biogas and biodiesel production, and they optimize processes in thermal power plants.

4. Environmental Protection:
   - Chemical engineers are essential for managing and reducing industrial waste, air pollution control, and water treatment.

5. Research and Development:
   - Chemical engineers are involved in research to develop new materials, improve existing processes, and innovate technologies.

6. Agriculture and Food Processing:
   - Chemical engineers contribute to the development of fertilizers, processing of food products, and improving crop yield.

7. Government and Regulatory Bodies:
   - Chemical engineers are employed in government departments that deal with industrial regulations, safety standards, and environmental protection policie
s.

These are just a few examples of the areas where chemical engineers contribute in Nepal. Their skills in process optimization, material science, and environ
mental sustainability are highly valuable.

ENTER YOUR CHOICE(1/2):
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On pressing key 4 , we get to the Scope and Application of Chemical
Engineer in Nepal

CONCLUSION

Our main aim of this program is to give people general idea about Chemical Engineering in Nepal and its scope.

We worked very hard for this program. Due to limited time and compiled error, we couldn't make the project as desired .   However, we still end up having some results .This project taught us the management of time ,planning foresights, and working in unity .Moreover ,it taught us that we could create something beautiful and meaningful with C Programming language.

In conclusion , this project underscores the significance of Chemical Engineering in Nepal

REFERENCES

1.https://ezexplanation.com/

2. Past Project
Videos-https://www.youtube.com/channel/UCBMxVHD2pd6j5FyGSIAeGyg

3. Our Long Hour Group Discussion

4.Course Note