COLEGIO DE MONTALBAN
INSTITUTE OF COMPUTER STUDIES

CpE Programming Logic and Design

Group Number: 3 (BSCPE 1D)

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Dela Cruz, Christian Ralph
Agcaoili, Princess Mae N.

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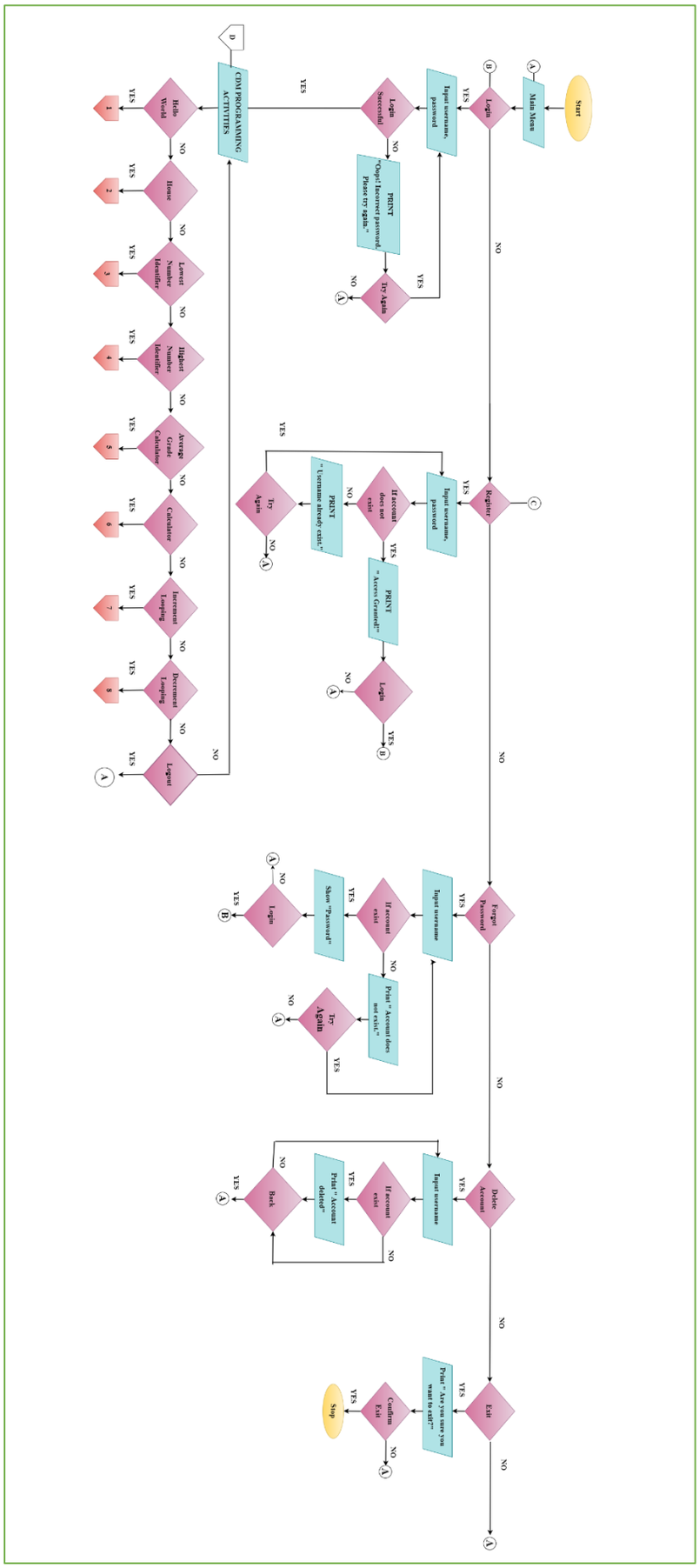
PROGRAM FLOWCHART



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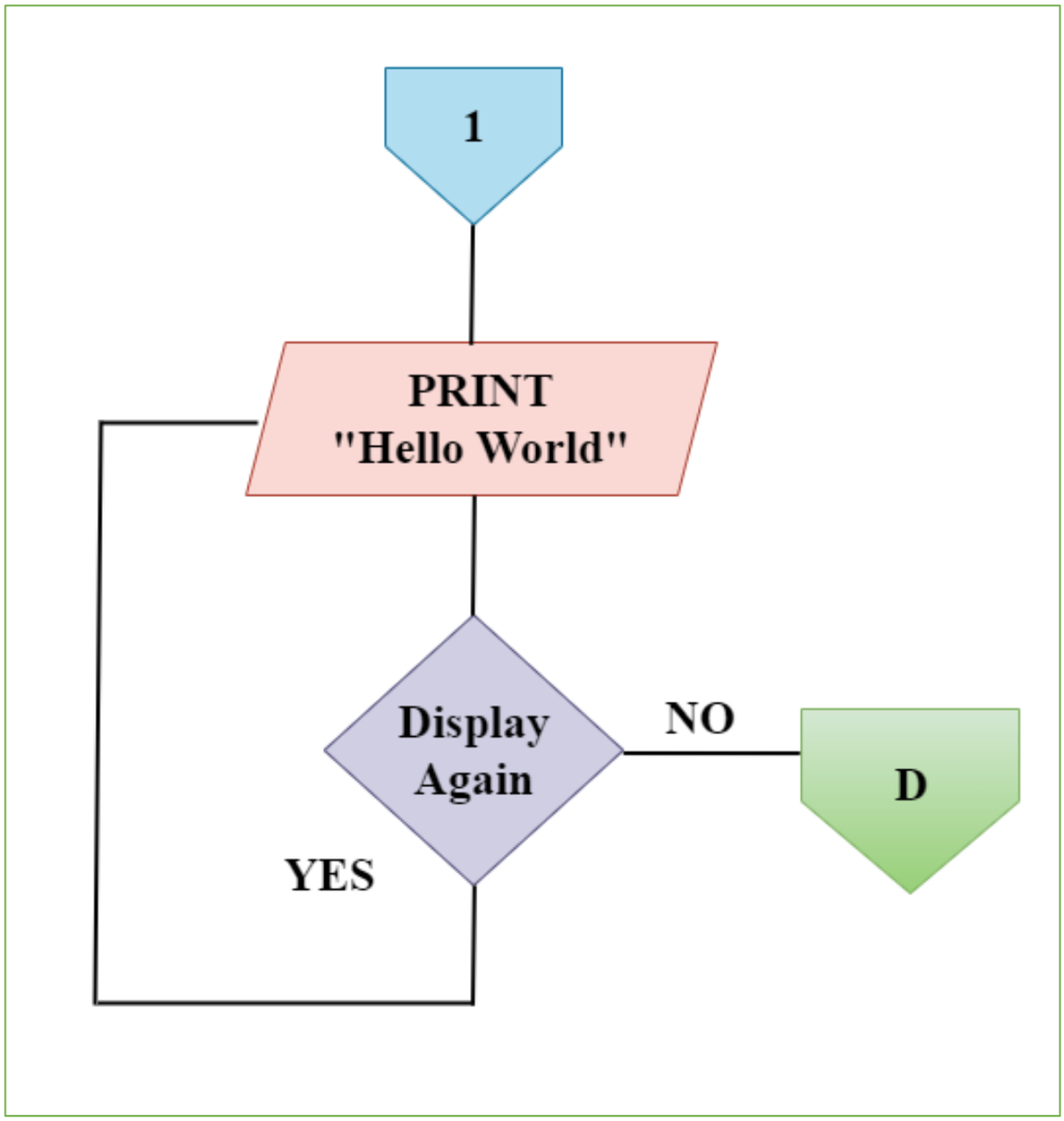
HELLO WORLD FLOWCHART



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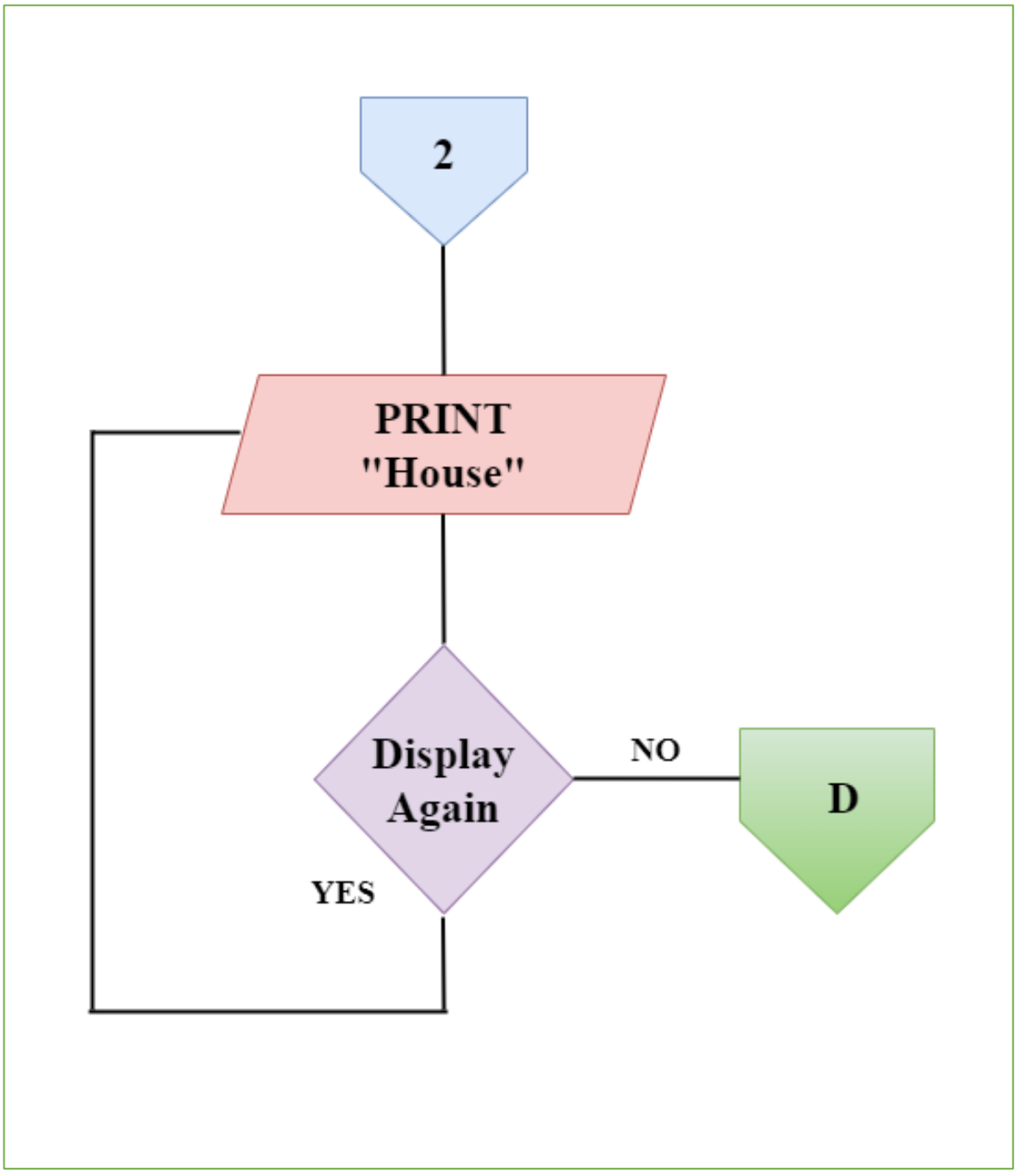
HOUSE FLOWCHART



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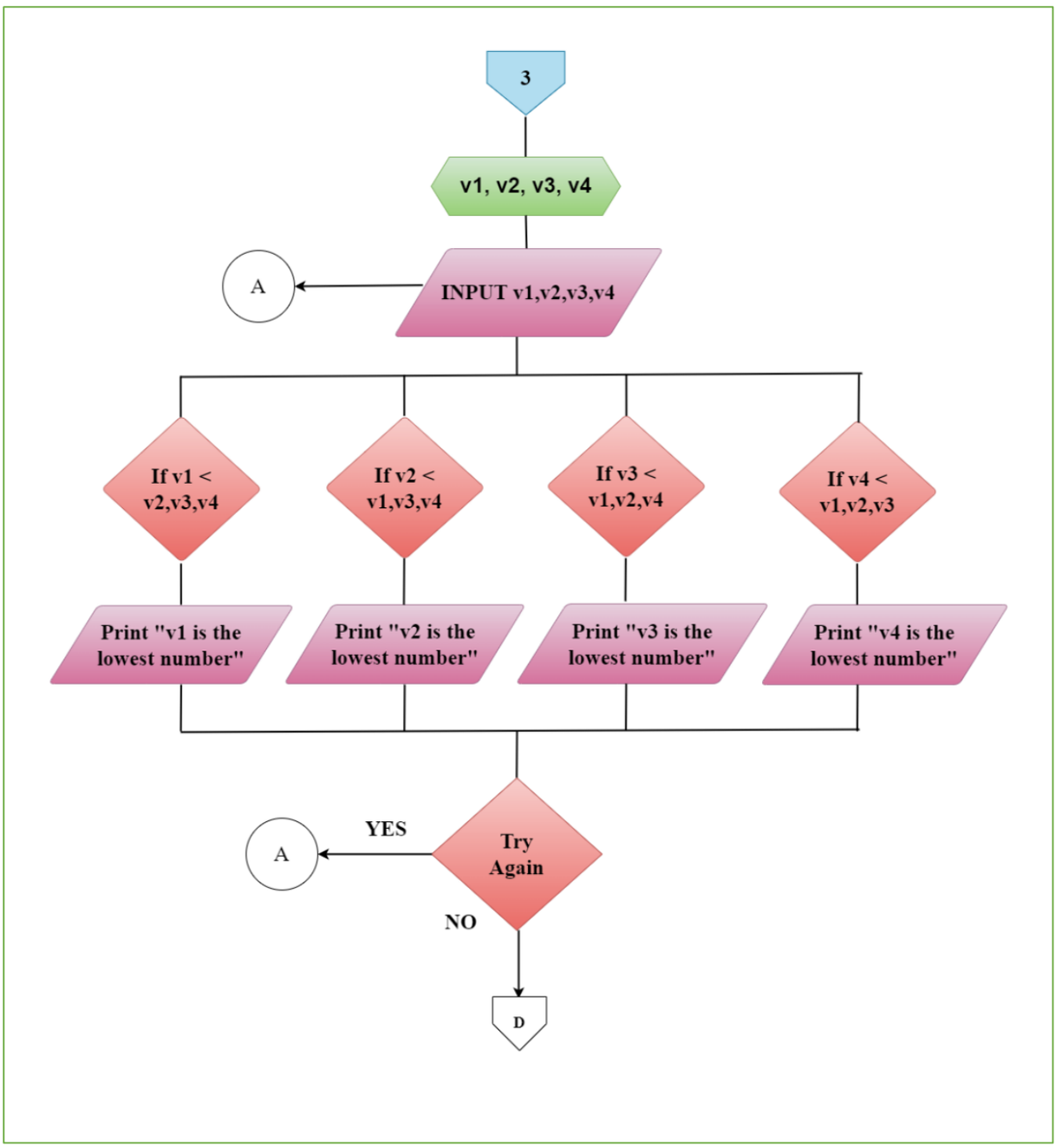
LOWEST NUMBER IDENTIFIER FLOWCHART



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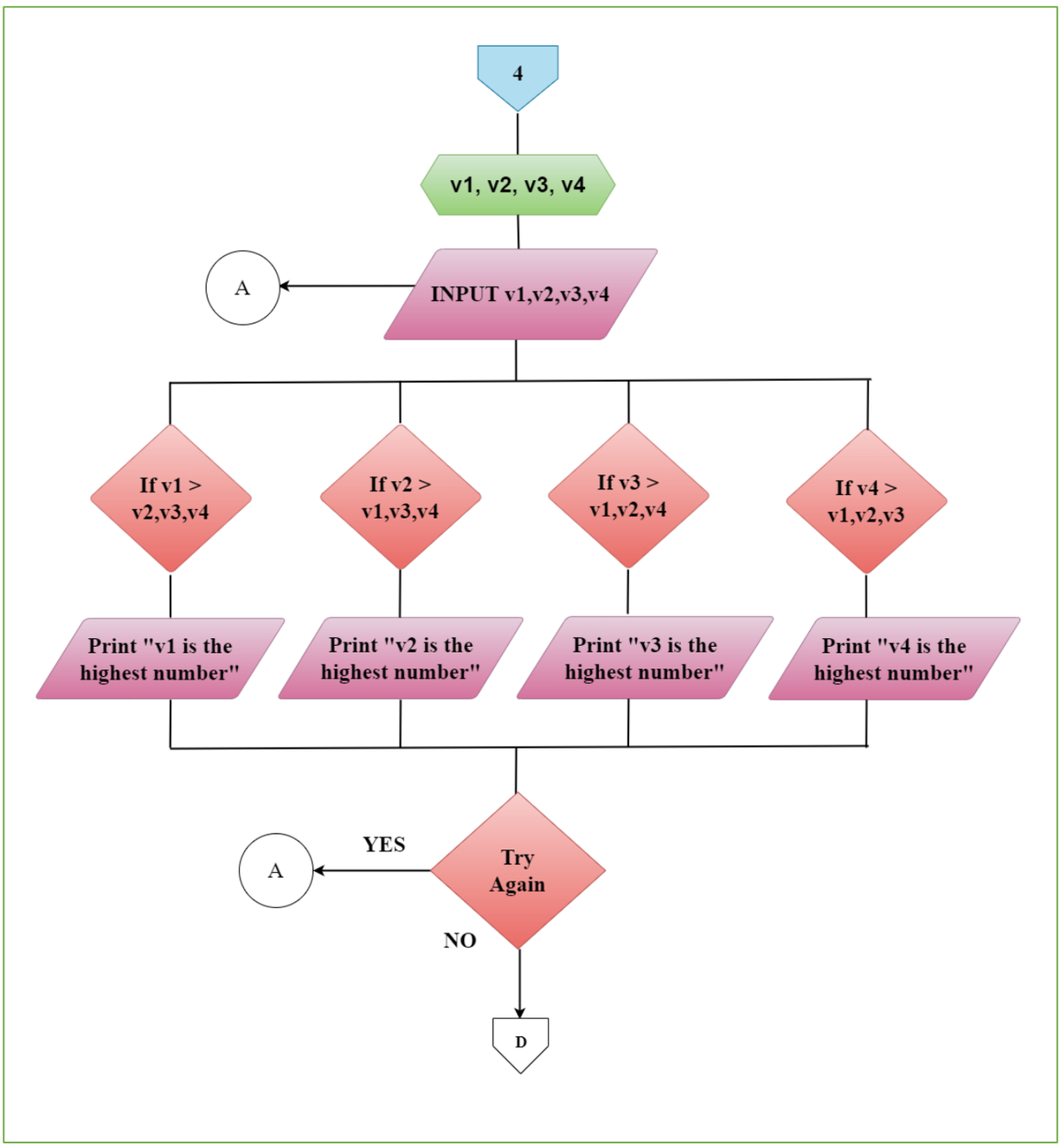
HIGHEST NUMBER IDENTIFIER FLOWCHART



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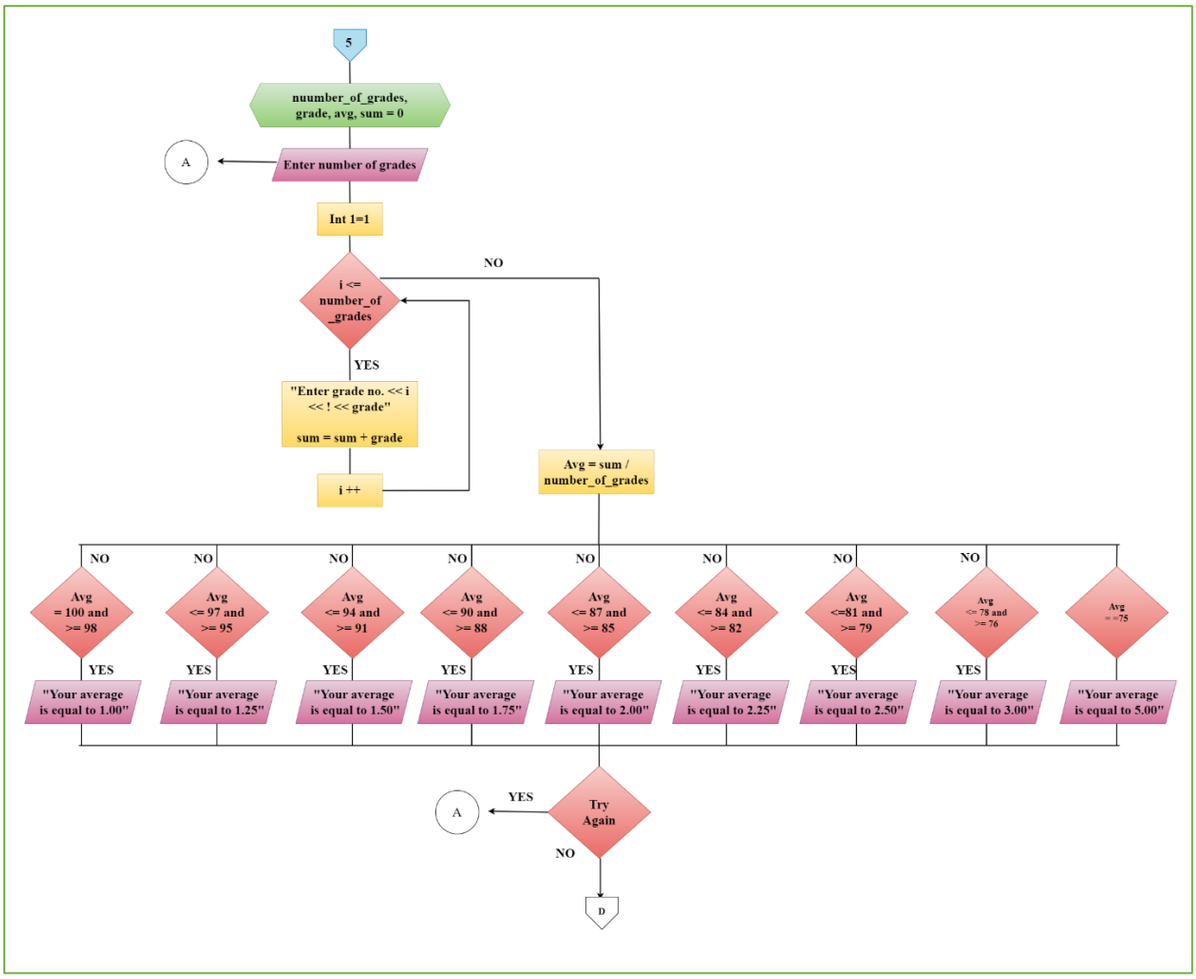
AVERAGE GRADE CALCULATOR



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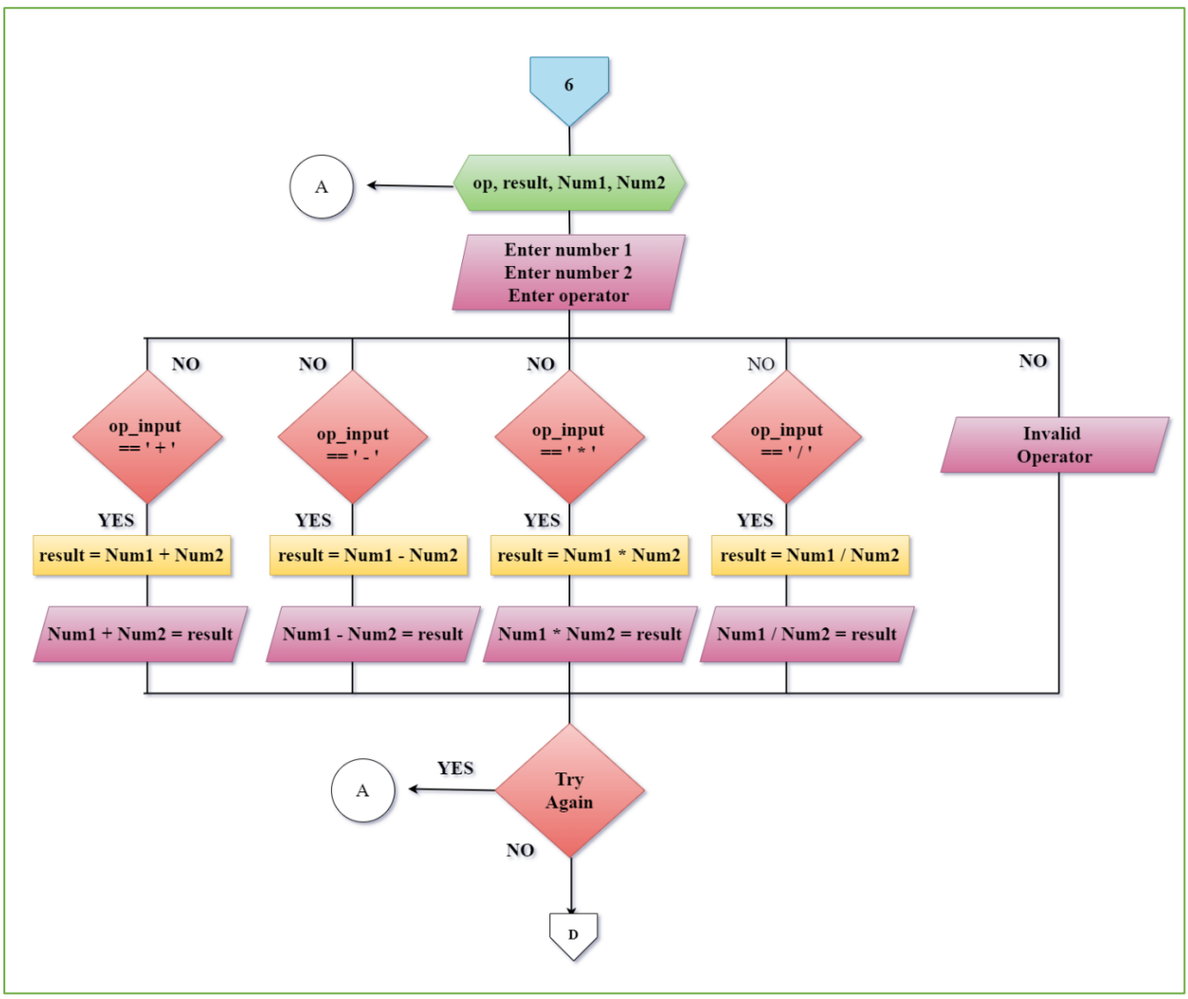
CALCULATOR FLOWCHART



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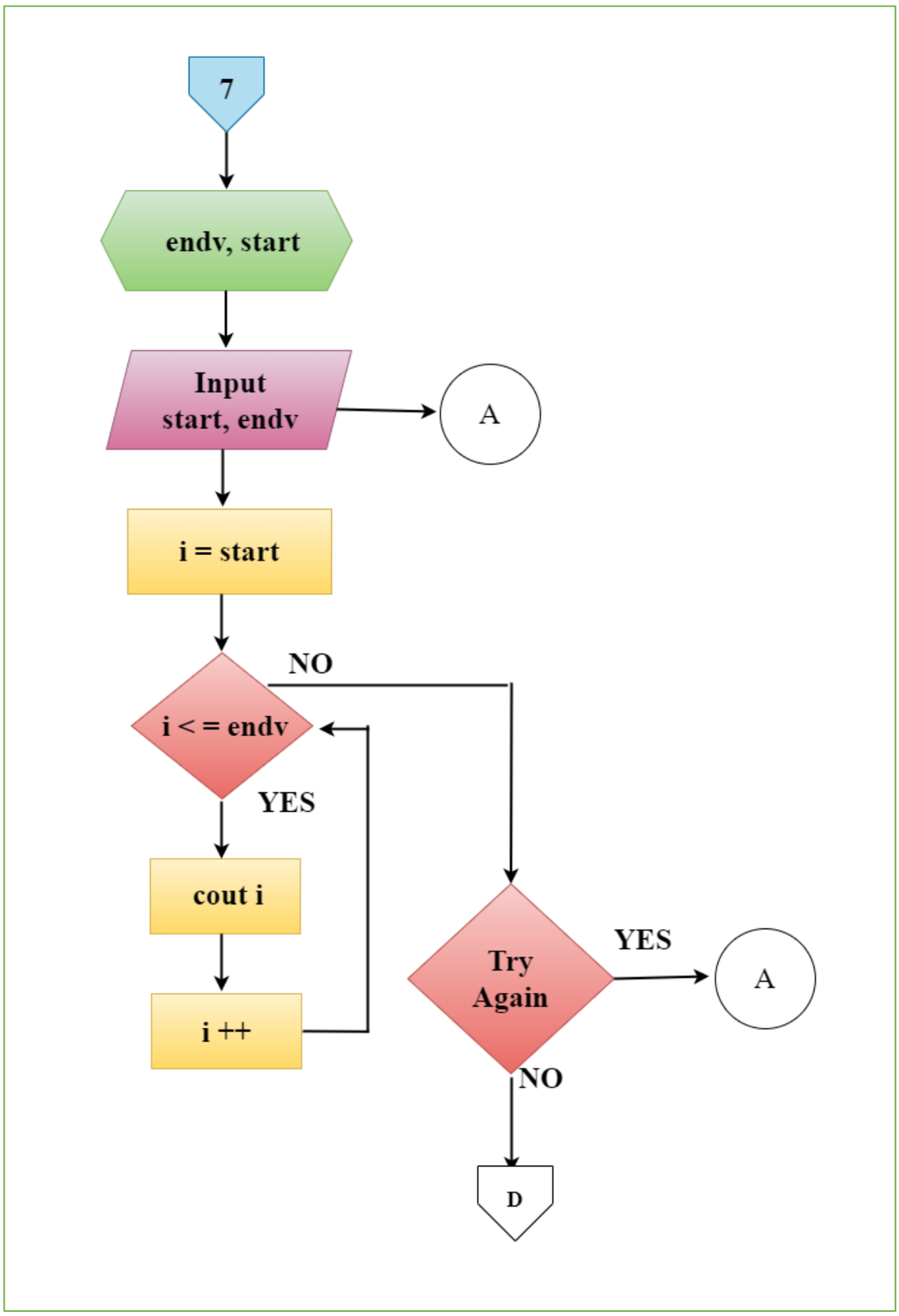
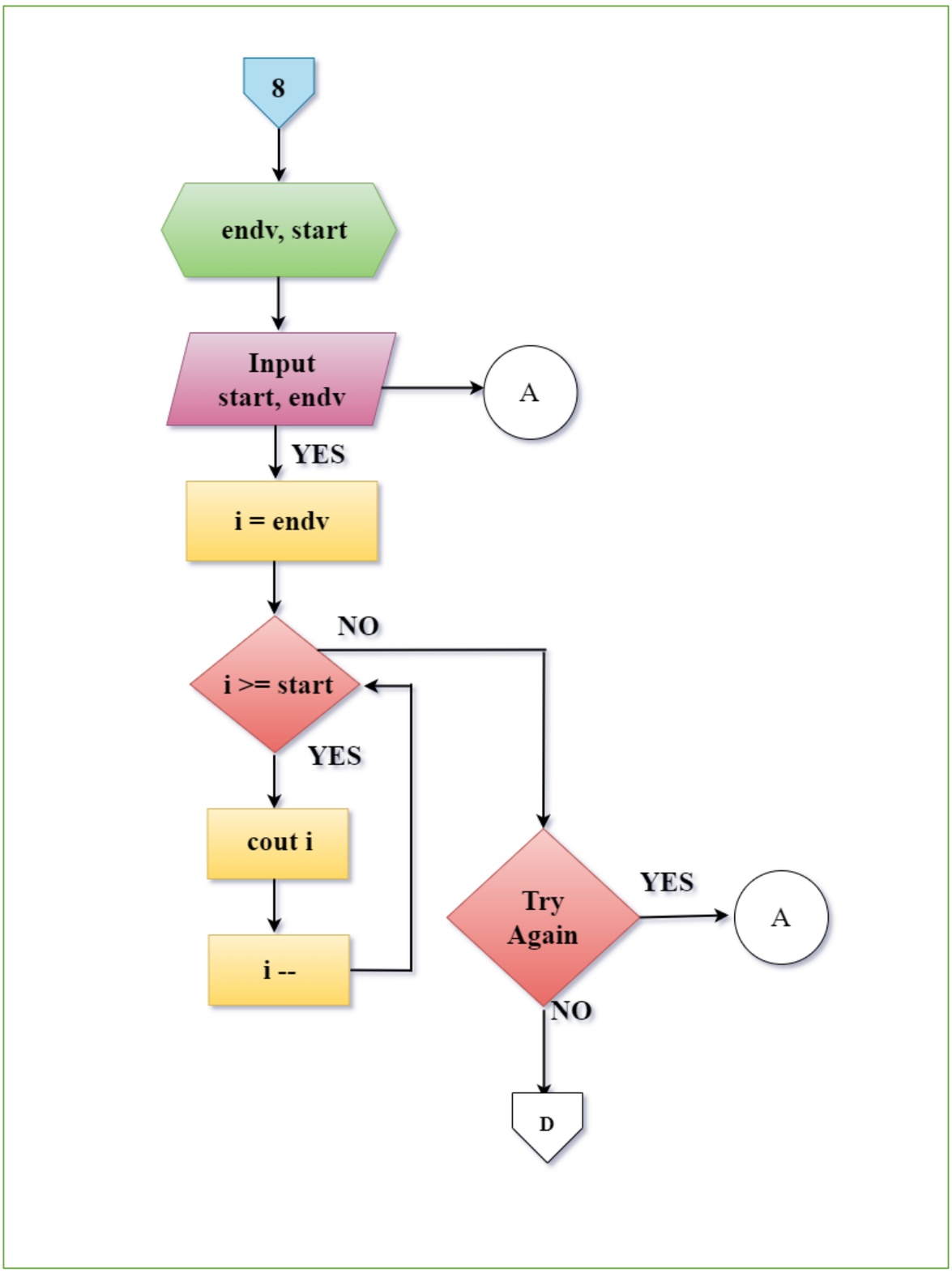
INCREMENT LOOPING FLOWCHART



DECREMENT LOOPING FLOWCHART



```
#include <iostream>
#include<istream>
#include<fstream>
#include <windows.h>
#include <unistd.h>
#include <iomanip>
#include <stdio.h>
#include <string>
#include <conio.h>
using namespace std;

int main();
void loading();
void login();
void acc_reg();
void forgot();
void delete_usr();
void hello_world();
void house();
void lower_number();
void higher_number();
void avg_calcu();
void calculator();
void inc_loop();
void dec_loop();
void menu();
void compilation();
void group();

void group(){
   system(" Color 0A ");
          cout<<("\t\t\t\t\t\t              ")<<endl;
          cout<<("\t\t\t\t\t\t       ÜÛßÛÛÛÛÜ")<<endl;
          cout<<("\t\t\t\t\t\t       ÛÛÛÛÛÛÛÛ")<<endl;
          cout<<("\t\t\t\t\t\t       ÛÛÛÛÛßßß GROUP 3!!!")<<endl;
          cout<<("\t\t\t\t\t\t Û     ÜÛÛÛÛßßß  CONSTANTINO")<<endl;
          cout<<("\t\t\t\t\t\t ÛÛÜ  ÜÛÛÛÛÛÛÜÜÜ  DELA CRUZ")<<endl;
          cout<<("\t\t\t\t\t\t ßÛÛÛÛÛÛÛÛÛÛÛ  ß  BAGASIN")<<endl;
          cout<<("\t\t\t\t\t\t   ßÛÛÛÛÛÛÛß     UBALDE")<<endl;
          cout<<("\t\t\t\t\t\t    ÛÛß ßÛ       AGCAOILI")<<endl;
          cout<<("\t\t\t\t\t\t   ÛÜ   ÛÜ      ")<<endl;
          cout<<("\t\t\t\t\t\t   ßÛÛ  ßßß    ")<<endl;
          cout << "||=========     ||||    ||||==============    ||\\\\\     ||       //==========\\\\\
\n";
          cout << "||       \\\\    ||||    ||||==============    || \\\\    ||      ||          ||\n";
```

```
        cout << "||      ||  ||||  ||||          || \\\\  ||    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||  \\\\ ||    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||   \\\\||    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||    \\\||    ||        ||\n";
        cout << "||      ||  ||||  ||||==========   ||    \\\\||    ||==========||\n";
        cout << "||      ||  ||||  ||||==========   ||    \\\\|    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||     ||    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||     ||    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||     ||    ||        ||\n";
        cout << "||      ||  ||||  ||||          ||     ||    ||        ||\n";
        cout << "||     //   ||||  ||||==========   ||     ||    ||        ||\n";
        cout << "||=========    ||||  ||||==========   ||     ||    ||        ||\n";
        sleep(5);
        system("cls");
}


void loading(){
   system("color F");
   char a = 219;

   char message[250] = "Opening program please wait . . .";
   printf("\n\n\n");
   printf("\n\n\n\t\t\t\t");
   for(int i=0; message[i] != '\0'; i++){
      cout <<message[i]<<"\xDB";
      for (int j = 0; j < 50000000; j++);
      cout<<"\b \b";
   }

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

   for (int i = 0; i < 40; i++) {
      printf("%c", a);

      Sleep(40);
   }
   sleep(2);
   cout <<"\n";
   cout << "\n\n\n\t\t\t\t";
   system("pause");
}
```

```
void login(){
   bool login;
   int choice;
   char ch;
   string username, password="", usr, pwd;
   system("cls");


   while(login==false){
      cout << "\n\n\t\t\t----------------------------------------------";
      cout << "\n\t\t\t|                LOGIN                |\n\t\t\t----------------------------------------------\n";
      cout << "\n\t\t\t Note: Password is invisible.\n";
      sleep(1);
      cout << "\n\n\t\t\t    Username: ";
      cin >> username;
      HANDLE hStdin = GetStdHandle(STD_INPUT_HANDLE);
      DWORD mode = 0;
      GetConsoleMode(hStdin, &mode);
      SetConsoleMode(hStdin, mode & (~ENABLE_ECHO_INPUT));
      cout << "\t\t\t    Password: ";
      cin >> password;
      cout << endl;
      cout << "\n\n\t\t\t Verifying";
      sleep(1);
      cout << ".";
      sleep(1);
      cout << ".";
      sleep(1);
      cout << ".";
      cout << "\n";
      sleep(1);

      ifstream login_creds("credentials.txt");
      while(login_creds >> usr >> pwd){
         if(usr == username && pwd == password){
            login = true;
         }
      }
      login_creds.close();

      if(login == false){
           sleep(1);
           system("cls");
           cout << "\n\n\t\t\t----------------------------------------------";
         cout << "\n\t\t\t|                LOGIN                |\n\t\t\t----------------------------------------------\n";
```

```
        cout << "\n\t\t\t Oops! Incorrect password. Please try again.\n";
        sleep(1.5);
        cout << "\n\n\t\t\t   (1) Try Again";
        cout << "\n\t\t\t   (0) Back\n";
        cout << "\n\n\t\t\t Choice: ";
        cin >> choice;
        sleep(2);

        if(choice==1){
           login = false;
        }
        else if(choice==0){
           menu();
        }

        system("cls");
     }
     else{
        system("cls");
        sleep(1);
        cout << "\n   Redirecting";
        sleep(1);
        cout << ".";
        sleep(1);
        cout << ".";
        sleep(1);
        cout << ".";
        sleep(1);
        system("cls");
        compilation();
     }
  }
}


void acc_reg(){
   bool accReg;
   int choice;
   string regUser, regPass, usr_reg, pwd_reg;
   system("cls");

   cout << "\n\n\t\t\t----------------------------------------------";
   cout << "\n\t\t\t|               REGISTER               |\n\t\t\t----------------------------------------------\n";
   cout << "\n\n\t\t\t    Enter Username: ";
   cin >> regUser;
```

```
cout << "\t\t\t    Enter Password: ";
cin >> regPass;
cout << endl;
cout << "\n\t\t\t Verifying account";
sleep(1);
cout << ".";
sleep(1);
cout << ".";
sleep(1);
cout << ".";
cout << "\n";
sleep(1);

ofstream reg("credentials.txt", ios::app);
ifstream acc("credentials.txt", ios::app);
while(acc >> usr_reg >> pwd_reg){
      if(usr_reg == regUser){
         accReg = true;
      }
   }
if(accReg==false){
   system("cls");
   reg << regUser << ' ' << regPass << endl;
   cout << "\n\n\t\t\t----------------------------------------------";
   cout << "\n\t\t\t|               REGISTER               |\n\t\t\t----------------------------------------------\n";
   cout << "\n\t\t\t Access Granted!\n\n";
   sleep(1.5);
   cout << "\n\t\t\t  (1) Login";
   cout << "\n\t\t\t  (0) Back\n";
   cout << "\n\n\t\t\t Choice: ";
   cin >> choice;
   sleep(2);

   if(choice==1){
      login();
      system("cls");
      sleep(2);
   }
   else{
      system("cls");
      menu();
   }
}
else{
   system("cls");
```

```
        cout << "\n\n\t\t\t----------------------------------------------";
        cout << "\n\t\t\t|              REGISTER              |\n\t\t\t----------------------------------------------\n";
        cout << "\n\t\t\t Username already exist.\n";
        sleep(1.5);
        cout << "\n\n\t\t\t   (1) Try Again";
        cout << "\n\t\t\t   (0) Back\n";
        cout << "\n\n\t\t\t Choice: ";
        cin >> choice;
        sleep(1);
        if(choice==1){
           acc_reg();
        }
        else if(choice == 0){
           menu();
        }
        else{
           cout << "Invalid input.\n";
        }
     }
}


void forgot(){
   bool forgot_pwd;
   string find_user, su, sp;
   int choice;
   system("cls");
   cout << "\n\n\t\t\t----------------------------------------------";
   cout << "\n\t\t\t|           FORGOT PASSWORD          |\n\t\t\t----------------------------------------------
\n";
        sleep(1);
        cout << "\n\n\t\t\t    Enter Username: ";
        cin >> find_user;
        cout << endl;
        cout << "\n\t\t\t Searching";
        sleep(1);
        cout << ".";
        sleep(1);
        cout << ".";
        sleep(1);
        cout << ".";
        cout << "\n";
        sleep(1);

   ifstream findUser("credentials.txt");
   while(findUser >> su >> sp){
```

```
      if(su == find_user){
         sleep(1);
         system("cls");
         cout << "\n\n\t\t\t-----------------------------------------------";
         cout << "\n\t\t\t|            FORGOT PASSWORD            |\n\t\t\t-----------------------------------------
---\n";
         cout << "\n\t\t\t Account Found!\n";
         sleep(1);
         cout << "\t\t\t Your password is: "<< sp;
         sleep(1.5);
         cout << "\n\n\n\t\t\t  (1) Login";
         cout << "\n\t\t\t  (0) Back\n";
         cout << "\n\n\t\t\t Choice: ";
         cin >> choice;
         sleep(2);

         if(choice==1){
            login();
            system("cls");
            sleep(2);
         }
         else{
            system("cls");
            menu();
         }
            forgot_pwd = true;
         }
   }
   findUser.close();
   if(forgot_pwd == false){
      system("cls");
      cout << "\n\n\t\t\t-----------------------------------------------";
      cout << "\n\t\t\t|            FORGOT PASSWORD            |\n\t\t\t-----------------------------------------
\n";
      cout << "\n\t\t\t Account does not exist.\n";
      sleep(1.5);
   }
}


void delete_usr(){
   string name, usr, pwd;
   sleep(1);
   system("cls");
   cout << "\n\n\t\t\t-----------------------------------------------";
   cout << "\n\t\t\t|            DELETE ACCOUNT            |\n\t\t\t-----------------------------------------------\n";
```

```
    cout << "\n\n\t\t\t    Enter username to delete: ";
    cin>> name;
    cout << endl;
    cout << "\n\n\t\t\t Deleting Account";
    sleep(1);
    cout << ".";
    sleep(2);
    cout << ".";
    sleep(2);
    cout << ".";
    cout << "\n";
    sleep(1);

    ifstream creds;
    creds.open("credentials.txt");
    ofstream temp;
    temp.open("temp.txt");

    creds >> usr;
    creds >> pwd;

    while(!creds.eof()){
        if(usr!=name){
            temp << usr<< " "<<pwd<<endl;
        }
        else{
            sleep(1);
            system("cls");
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|          DELETE ACCOUNT          |\n\t\t\t----------------------------------------------
\n";
            cout << "\n\t\t\t Account deleted.\n";
            sleep(1.5);
        }
        creds >> usr;
        creds >> pwd;
    }
    temp.close();
    creds.close();

    remove("credentials.txt");
    rename("temp.txt", "credentials.txt");

}
```

```
void hello_world(){
   cout << "Hello World!\n";
}


void house(){
   cout << "\t " << endl;
          cout << "\t                 _____ " << endl;
          cout << "\t              __/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAY\\__ " << endl;
          cout << "\t           __/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBA\\__ " << endl;
          cout << "\t        __/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUB\\__ " << endl;
          cout << "\t
/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAY\\_____ " << endl;
          cout << "\t
/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKU\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\\\\\ " << endl;
          cout << "\t
/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBO\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\\\\\\\\\\\\ " << endl;
          cout << "\t
/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBA\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\\\\\\\\\\\\\\\\\\\ " << endl;
          cout << "\t
/BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAKUBOBAHAYKUBOBAHAYKUBOBAHAY\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\\\\\\\\\\\\\\\\\\\\\\\\\\\ " << endl;
          cout << "\t
/||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\\\\\\\\\\\\\\\ " << endl;
          cout << "\t
/|*|*|*|*|*|*|*|*|**|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|*|\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\\\\\\\\\\\\\\\\\\\\\\\\\ " << endl;
          cout << "\t     BA  |HAY|KUB|   |OBA|HAY|  KU|-|-|-|-|-|-|-
|BOBAHAYKUBOBA|*|*|*|*|*|*|*|*|*|*|*|\\ " << endl;
          cout << "\t     BA  |-------|   |-------|  HA||-|-|-|-|-|-||YK|       ||     ||      |UB " << endl;
          cout << "\t     BA  |HAY|KUB|   |OBA|HAY|  KU|-|-|-|-|-|-|BO|       ||     ||      |BA " <<
endl;
          cout << "\t     BA_____________________________HA||-|-|-|-|-|-||YK|       ||     ||      |UB
" << endl;
          cout << "\t
BAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHAYKUBOBAHA|__________||
||________|YK " << endl;
          cout << "\t     BA || || || || || || || HA||-|-|-|-|-|-||YK|||||||||||||     ||||||||||UB
" << endl;
          cout << "\t     BA HA  YK  UB  OB  AH  AY  KU BO|-|-|-|-|-|-|-|BA|| | | | | ||     || | | | ||HA "
<< endl;
          cout << "\t     BA || || || || || || || HA||-|-|-|-|-|-||YK|       ||     ||      |UB " << endl;
          cout << "\t     BAHAYKUBOBAHAYKUBOBAHAYKKUBOBAHA|-|-|-|-|-|-|-|YK| | | | | |||
||| | | | |UB " << endl;
```

```
        cout << "\t      ==============================BA*H*A*Y*K*U*B*O*B*AH||||||||||||
||||||||||YK " << endl;
        cout << "\t         BA   H            AY   K
*UBOBAHAYKUBO\\\\=======\\\\OBAHAYKUBOB " << endl;
        cout << "\t         BA   H            AY   K         UB   O  \\\\=======\\\\      BA  " << endl;
        cout << "\t         BA   H            AY   K         UB   O   \\\\=======\\\\     BA  " << endl;
        cout << "\t         BA   H            AY   K         UB   O    \\\\=======\\\\    BA  " << endl;
        cout << "\t         BA               HA           YK        \\\\=======\\\\    UB  " << endl;
}


void lower_number(){
   double v1, v2,v3, v4;
   cout << "\n\t\t\t Input Value Number 1: ";
   cin >> v1;
   cout << "\t\t\t Input Value Number 2: ";
   cin >> v2;
   cout << "\t\t\t Input Value Number 3: ";
   cin >> v3;
   cout << "\t\t\t Input Value Number 4: ";
   cin >> v4;
   if (v1 < v2 && v1 < v3 && v1 < v4 ) {
      cout << "\n\n\t\t\t " << v1 << " is the lowest number. " << endl ;
   }
   else if (v2 < v1 && v2 < v3 && v3 < v4){
      cout << "\n\n\t\t\t " << v2 <<  " is the lowest number. " ;
   }
   else if (v3 < v1 && v3 < v2 && v3 < v4){
      cout << "\n\n\t\t\t " << v3 << " is the lowest number. " ;
   }
   else{
      cout << "\n\n\t\t\t " << v4 << " is the lowest number. ";
   }
}


void higher_number(){
   double v1, v2,v3, v4;
   cout << "\n\t\t\t Input Value Number 1: ";
   cin >> v1;
   cout << "\t\t\t Input Value Number 2: ";
   cin >> v2;
   cout << "\t\t\t Input Value Number 3: ";
   cin >> v3;
   cout << "\t\t\t Input Value Number 4: ";
   cin >> v4;
```

```
    if (v1 > v2 && v1 > v3 && v1 > v4 ) {
        cout << "\n\n\t\t\t " << v1 << " is the highest number. " << endl ;
    }
    else if (v2 > v1 && v2 > v3 && v3 > v4){
        cout << "\n\n\t\t\t " << v2 <<  " is the highest number. " ;
    }
    else if (v3 > v1 && v3 > v2 && v3 > v4){
        cout << "\n\n\t\t\t " << v3 << " is the highest number. " ;
    }
    else{
        cout << "\n\n\t\t\t " << v4 << " is the highest number. ";
    }
}


void avg_calcu(){
    int number_of_grades;
    double grade, sum=0, avg;

    cout << "\n\t\t\t Enter number of grades: ";
    cin >> number_of_grades;
    cout << endl;
    for(int i = 1; i <= number_of_grades; i++){
        cout << "\t\t\t Enter grade no."<< i <<" : ";
        cin >> grade;
        sum = sum + grade; // getting the sum of grade input
    }

    avg = sum / number_of_grades;

    system("cls");
    cout << "\n\n\t\t\t-----------------------------------------------";
    cout << "\n\t\t\t|         AVERAGE GRADE CALCULATOR          |\n\t\t\t-----------------------------------------
----\n\n";
    cout << "\n\t\t\t Calculating";
    sleep(1);
    cout << ".";
    sleep(1);
    cout << ".";
    sleep(1);
    cout << ".";
    system("cls");

    cout << "\n\n\t\t\t-----------------------------------------------";
```

```
    cout << "\n\t\t\t|        AVERAGE GRADE CALCULATOR        |\n\t\t\t----------------------------------------
----\n\n";

    if(avg == 100 && avg >= 98){
        cout << "\n\n\t\t\tYour average " << avg << " is equivalent to 1.00" << endl;
    }
    else if(avg <= 97 && avg >=95){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 1.25" << endl;
    }
    else if(avg <= 94 && avg >=91){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 1.50" << endl;
    }
    else if(avg <= 90 && avg >=88){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 1.75" << endl;
    }
    else if(avg <= 87 && avg >=85){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 2.00" << endl;
    }
    else if(avg <= 84 && avg >=82){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 2.25" << endl;
    }
    else if(avg <= 81 && avg >=79){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 2.50" << endl;
    }
    else if(avg <= 78 && avg >=76){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 2.75" << endl;
    }
    else if(avg == 75){
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 3.00" << endl;
    }
    else{ // if all condition above are not met
        cout << "\n\n\t\t\t Your average " << avg << " is equivalent to 5.00" << endl;
    }
}


void calculator(){
    char op_input;
    double result, num1, num2;

    cout << "\n\t\t\t Enter number 1: ";
    cin >> num1;
    cout << "\t\t\t Enter number 2: ";
    cin >> num2;
    cout << "\n\t\t\t Select operator ( + , - , * , / ): ";
    cin >> op_input;
```

```
    system("cls");
    cout << "\n\n\t\t\t-----------------------------------------------";
    cout << "\n\t\t\t|              CALCULATOR              |\n\t\t\t-----------------------------------------------\n\n";
    cout << "\n\t\t\t Calculating";
    sleep(1);
    cout << ".";
    sleep(1);
    cout << ".";
    sleep(1);
    cout << ".";
    system("cls");

    cout << "\n\n\t\t\t-----------------------------------------------";
    cout << "\n\t\t\t|              CALCULATOR              |\n\t\t\t-----------------------------------------------\n\n";
    if(op_input == '+'){
        result = num1 + num2;
        cout << "\n\n\t\t\t " << num1 << " + " << num2 << " = " << result << endl;
    }
    else if(op_input == '-'){
        result = num1 - num2;
        cout << "\n\n\t\t\t " << num1 << " - " << num2 << " = " << result << endl;
    }
    else if(op_input == '*'){
        result = num1 * num2;
        cout << "\n\n\t\t\t " << num1 << " * " << num2 << " = " << result << endl;
    }
    else if(op_input == '/'){
        result = (double)num1 / (double)num2;
        cout << "\n\n\t\t\t " << num1 << " / " << num2 << " = " << result << endl;
    }
    else{
        cout << "\n\n\t\t\t " << "Invalid operator.\n";
    }
}


void inc_loop(){
    int start, endv;

            cout << "\n\t\t\t Note: Starting value must be lower than limit.";
            cout << endl;
            sleep(1);
    cout << "\n\n\t\t\t   Enter starting value: ";
    cin >> start;
    cout << "\t\t\t   Enter limit: ";
```

```
   cin >> endv;
         cout << "\n";
   for(int i = start; i <= endv; i++){
      cout << "\t\t\t " << i << endl;
   }
}


void dec_loop(){
   int endv, start;
         cout << "\n\t\t\t Note: Starting point must be lower than";
         cout << "\n\t\t\t      end value.";
         cout << endl;
         sleep(1);
         cout << "\n\n\t\t\t   Enter starting point: ";
   cin >> start;
   cout << "\t\t\t   Enter end value: ";
   cin >> endv;
   cout << "\n";
   for(int i = endv; i >= start; i--){
      cout << "\t\t\t " << i << endl;
   }

}


void compilation(){
   int menuChoice;

   do{
      cout << "\n\n\t\t\t----------------------------------------------";
      cout << "\n\t\t\t|        CDM PROGRAMMING ACTIVITIES         |\n\t\t\t-------------------------------------
---------\n";
      cout << "\n\t\t\t\t(1) Hello World\n";
      cout << "\t\t\t\t(2) House\n";
      cout << "\t\t\t\t(3) Lowest Number Identifier\n";
      cout << "\t\t\t\t(4) Highest Number Identifier\n";
      cout << "\t\t\t\t(5) Average Grade Calculator\n";
      cout << "\t\t\t\t(6) Calculator\n";
      cout << "\t\t\t\t(7) Increment Looping\n";
      cout << "\t\t\t\t(8) Decrement Looping\n";
      cout << "\t\t\t\t(0) Logout\n";
      cout << "\n\t\t\t_____________________________________________________\n";
      cout << "\n\t\t\tChoice (0-8): ";
      cin >> menuChoice;
      sleep(1);
```

```
    system("cls");

    if(menuChoice==1){
       do{
          cout << "\n\n\t\t\t----------------------------------------------";
          cout << "\n\t\t\t|              HELLO WORLD              |\n\t\t\t----------------------------------------------
-\n\n\n\t\t\t\t\t  ";
          sleep(1);
          hello_world();
          sleep(1.5);
          cout << "\n\n\n\t\t\t   (1) Display again\n";
          cout << "\t\t\t   (0) Back\n";
          cout << "\n\n\t\t\t   Choice: ";
          cin >> menuChoice;
          system("cls");
          cout << "\n\n\t\t\t----------------------------------------------";
          cout << "\n\t\t\t|              HELLO WORLD              |\n\t\t\t----------------------------------------------
-\n";
          cout << "\n\t\t\t Loading";
          sleep(1);
          cout << ".";
          sleep(1);
          cout << ".";
          sleep(1);
          cout << ".";
          sleep(1);
          system("cls");
       }while(menuChoice==1);

    }
    else if(menuChoice==2){
       do{
          cout << "\n\n\t\t\t----------------------------------------------";
          cout << "\n\t\t\t|                HOUSE                |\n\t\t\t----------------------------------------------
\n\n";
          sleep(1);
          house();
          sleep(1.5);
          cout << "\n\n\n\t\t\t   (1) Display again\n";
          cout << "\t\t\t   (0) Back\n";
          cout << "\n\n\t\t\t   Choice: ";
          cin >> menuChoice;
          system("cls");
          cout << "\n\n\t\t\t----------------------------------------------";
          cout << "\n\t\t\t|                HOUSE                |\n\t\t\t----------------------------------------------
\n\n";
```

```
            cout << "\n\t\t\t Loading";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            system("cls");
         }while(menuChoice==1);
      }
      else if(menuChoice==3){
         do{
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|          LOWEST NUMBER IDENTIFIER          |\n\t\t\t----------------------------------
----------\n\n";
            sleep(1);
            lower_number();
            sleep(1.5);
            cout << "\n\n\n\t\t\t   (1) Display again\n";
            cout << "\t\t\t   (0) Back\n";
            cout << "\n\n\t\t\t   Choice: ";
            cin >> menuChoice;
            system("cls");
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|          LOWEST NUMBER IDENTIFIER          |\n\t\t\t----------------------------------
----------\n\n";
            cout << "\n\t\t\t Loading";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            system("cls");
         }while(menuChoice==1);
      }
      else if(menuChoice==4){
         do{
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|         HIGHEST NUMBER IDENTIFIER          |\n\t\t\t----------------------------------
----------\n\n";
            sleep(1);
            higher_number();
            sleep(1.5);
```

```
            cout << "\n\n\n\t\t\t   (1) Display again\n";
            cout << "\t\t\t   (0) Back\n";
            cout << "\n\n\t\t\t   Choice: ";
            cin >> menuChoice;
            system("cls");
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|         HIGHEST NUMBER IDENTIFIER         |\n\t\t\t-----------------------------------
-----------\n\n";
            cout << "\n\t\t\t Loading";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            system("cls");
         }while(menuChoice==1);
      }
      else if(menuChoice==5){
         do{
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|         AVERAGE GRADE CALCULATOR          |\n\t\t\t-----------------------------------
-------------\n\n";
            sleep(1);
            avg_calcu();
            sleep(1.5);
            cout << "\n\n\n\t\t\t   (1) Display again\n";
            cout << "\t\t\t   (0) Back\n";
            cout << "\n\n\t\t\t   Choice: ";
            cin >> menuChoice;
            system("cls");
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|         AVERAGE GRADE CALCULATOR          |\n\t\t\t-----------------------------------
-------------\n\n";
            cout << "\n\t\t\t Loading";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            system("cls");
         }while(menuChoice==1);
      }
```

```
    else if(menuChoice==6){
      do{
        cout << "\n\n\t\t\t-----------------------------------------------";
        cout << "\n\t\t\t|              CALCULATOR              |\n\t\t\t-----------------------------------------------
\n\n";
        sleep(1);
        calculator();
        sleep(1.5);
        cout << "\n\n\n\t\t\t   (1) Display again\n";
        cout << "\t\t\t   (0) Back\n";
        cout << "\n\n\t\t\t   Choice: ";
        cin >> menuChoice;
        system("cls");
        cout << "\n\n\t\t\t-----------------------------------------------";
        cout << "\n\t\t\t|              CALCULATOR              |\n\t\t\t-----------------------------------------------
\n\n";
        cout << "\n\t\t\t Loading";
        sleep(1);
        cout << ".";
        sleep(1);
        cout << ".";
        sleep(1);
        cout << ".";
        sleep(1);
        system("cls");
      }while(menuChoice==1);
    }
    else if(menuChoice==7){
      do{
        cout << "\n\n\t\t\t-----------------------------------------------";
        cout << "\n\t\t\t|           INCREMENT LOOPING          |\n\t\t\t---------------------------------------
------\n\n";
        sleep(1);
        inc_loop();
        sleep(1.5);
        cout << "\n\n\n\t\t\t   (1) Display again\n";
        cout << "\t\t\t   (0) Back\n";
        cout << "\n\n\t\t\t   Choice: ";
        cin >> menuChoice;
        system("cls");
        cout << "\n\n\t\t\t-----------------------------------------------";
        cout << "\n\t\t\t|           INCREMENT LOOPING          |\n\t\t\t---------------------------------------
------\n\n";
        sleep(1);
        cout << "\n\t\t\t Loading";
        sleep(1);
```

```
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            system("cls");
         }while(menuChoice==1);
      }
      else if(menuChoice==8){
         do{
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|            DECREMENT LOOPING            |\n\t\t\t----------------------------------------
-------\n\n";
            sleep(1);
            dec_loop();
            sleep(1.5);
            cout << "\n\n\n\t\t\t   (1) Display again\n";
            cout << "\t\t\t   (0) Back\n";
            cout << "\n\n\t\t\t   Choice: ";
            cin >> menuChoice;
            system("cls");
            cout << "\n\n\t\t\t----------------------------------------------";
            cout << "\n\t\t\t|            DECREMENT LOOPING            |\n\t\t\t----------------------------------------
-------\n\n";
            sleep(1);
            cout << "\n\t\t\t Loading";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            cout << ".";
            sleep(1);
            system("cls");
         }while(menuChoice==1);
      }
      else if(menuChoice==0){
         system("cls");
         sleep(1);
         cout << "\n   Logging out";
         sleep(1);
         cout << ".";
         sleep(1);
         cout << ".";
         sleep(1);
```

```
        cout << ".";
        sleep(1);
        system("cls");
        menu();
      }
      else{
        cout << "Invalid input. Try again\nMenu\n\n";
        compilation();
        system("cls");
      }
   }while(menuChoice==0);
}


void menu(){
   int menuChoice;
   system("cls");
   do{
      cout << "\n\n\t\t\t-----------------------------------------------";
      cout << "\n\t\t\t|              MAIN MENU              |\n\t\t\t-----------------------------------------------\n";
      cout << "\n\t\t\t\t(1) Login";
      cout << "\n\t\t\t\t(2) Register";
      cout << "\n\t\t\t\t(3) Forgot Password";
      cout << "\n\t\t\t\t(4) Delete Account";
      cout << "\n\t\t\t\t(5) Exit Program\n";
      cout << "\n\t\t\t_____________________________________________________\n";
      cout << "\n\t\t\tChoice: ";
      cin >> menuChoice;
      sleep(1);

      switch(menuChoice){
        case 1:
          login();
          system("cls");
          compilation();
          break;
        case 2:
          do{
            acc_reg();
            cout << "\n(1) Try again\n";
            cout << "(0) Back\n";
            cin >> menuChoice;
            sleep(2);
            system("cls");
          }while(menuChoice==1);
```

```
            break;
        case 3:
            do{
                forgot();
                cout << "\n\n\t\t\t  (1) Try again\n";
                cout << "\t\t\t  (0) Back\n";
                cout << "\n\n\t\t\t Choice: ";
                cin >> menuChoice;
                sleep(2);
                system("cls");
            }while(menuChoice==1);
            break;
        case 4:
            do{
                delete_usr();
                cout << "\n\n\t\t\t  (1) Again\n";
                cout << "\t\t\t  (0) Back\n";
                cout << "\n\n\t\t\t Choice: ";
                cin >> menuChoice;
                sleep(2);
                system("cls");
            }while(menuChoice==1);
            break;
        case 5:
            system("cls");
            cout << "Are you sure you want to exit?\n\n";
            cout << "   (1) Yes \n   (0) No\n\n";
            cout << "Choice: ";
            cin >> menuChoice;
            if(menuChoice==0){
                menu();
            }
            else if(menuChoice==1){
                break;
            }
            else{
                cout << "invalid input\n";
            }
            break;
        default:
            menu();
            break;
      }
   }while(menuChoice==0);
}
```

```
int main(){

   int menuChoice;
   group();
   loading();
   menu();
   system("cls");
}
```