Problem-01:

#include<bits/stdc++.h>

using namespace std;

class AB{

    public:

    float m, c;

    void input(){

        cout<<"Enter distance as meter unit = ";

        cin>>m;

        cout<<"Enter distance as centimeters unit = ";

        cin>>m;

    }

};

class DB{

    public:

    float f, i;

    void input(){

        cout<<"\nEnter distance as feet unit = ";

        cin>>f;

        cout<<"Enter distance as inches unit = ";

        cin>>i;

    }

};

int main()

{

    AB abObj;

    DB dbObj;

    abObj.input();

    dbObj.input();

    cout<<"\n\nValue of feet = "<<dbObj.f<<endl;

    cout<<"Value of inches = "<<dbObj.i<<endl;

    return 0;

}

A screenshot of a computer

Description automatically generated with medium confidence

Problem-2:

#include<bits/stdc++.h>

using namespace std;

class fuad{

    public:

    string author[4] = {"Balaguru Sami", "Jhankar Mahbub", "Junayed", "Ayman Sadiq"};

    string title[4] = {"C Programming", "Habluder Programming", "Java Script", "XYZ"};

    string publisher[4] = {"Dimik", "Bangla Academy", "XYZ", "ABC"};

    int stock[4] = {10, 20, 30, 40};

    int price[4] = {150, 200, 250, 300};

    void cosmetics(){

        cout<<"<<--------------SHIKKHANGON BD BOOK SHOP---------------->\n<<--------------Let's Learn Something---------------->\n\n";

        for(int i = 0; i < 4; i++){

            cout<<i+1<<". Authors name: "<<author[i] << " - Book Title: "<<title[i] << " - Publisher: "<<publisher[i] << "\nStock: "<<stock[i]<< " - Price: "<<price[i]<<" taka"<<endl<<endl;

        }

    }

    int search(string cAuthor, string cTitle){

        for(int i = 0; i < 4; i++){

            if(author[i] == cAuthor && title[i] == cTitle)      return i;

            else return -1;

        }

    }

    void askCustomer(){

        string cTitle, cAuthor;

        cout<<"\nEnter your book title = ";

        getline(cin, cTitle);

        cout<<"Enter author name = ";

        getline(cin, cAuthor);

        int sea = search(cAuthor, cTitle);

        if(sea != -1){

            cout<<"\nBook found!\n";

            cout<<"Book Title: " << title[sea]<<endl;

            cout<<"Author Name: " << author[sea]<<endl;

            cout<<"Price: " << price[sea]<<endl;

            cout<<stock[sea] << " piece available"<<endl;

            int cPiece;

            cout<<"\nHow many books you need?\n";

            cin>>cPiece;

            if(cPiece <= stock[sea]){

                cout<<"You need to pay = "<<stock[sea]\*price[sea]<<" taka"<<endl;

            }

            else{

                cout<<"Required copies not in stock"<<endl;

            }

        }

        else{

            cout<<"Sorry! Book isn't available."<<endl;

        }

    }

};

int main()

{

    fuad fObj;

    fObj.cosmetics();

    fObj.askCustomer();

    return 0;

}

Text

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Problem-4:

#include<bits/stdc++.h>

using namespace std;

class fuad{

    public:

    string s = "I am a student and my Id is AB10203090";

    int alphabet = 0, nc = 0;

    void count()

    {

        for(int i = 0; i < s.length(); i++)

        {

            if((s[i] >= 'a' && s[i] <= 'z') || (s[i] >= 'A' && s[i] <= 'Z'))

            {

                alphabet++;

            }

            else{

                nc++;

            }

        }

        cout<<"Total Alphabet = "<<alphabet<<endl;

        cout<<"Total numerical characters = "<<nc<<endl;

    }

};

int main()

{

    fuad obj;

    obj.count();

    return 0;

}

Text

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Problem-5:

#include<bits/stdc++.h>

using namespace std;

class fuad{

    public:

    float wm, vm, totalM;

    void input(){

        cout<<"Enter your CSC 284 Written marks = ";

        cin>>wm;

        cout<<"Enter your CSC 284 viva marks = ";

        cin>>vm;

    }

    void gradeFinder(){

        totalM = (wm\*0.25) + (vm \* 0.75);

        if(totalM >= 80)    cout<<"Grade A"<<endl;

        else if(totalM >= 70 && totalM <= 79)   cout<<"Grade B"<<endl;

        else if(totalM >= 60 && totalM <= 69)   cout<<"Grade C"<<endl;

        else if(totalM >= 50 && totalM <= 59)   cout<<"Grade D"<<endl;

        else if(totalM < 50)   cout<<"Fail!"<<endl;

    }

};

int main()

{

    fuad obj;

    obj.input();

    obj.gradeFinder();

    return 0;

}

Text

Description automatically generated

Problem-6:

#include<bits/stdc++.h>

using namespace std;

class fuad{

    public:

    string name[5], Sname;

    int num[5], sNum, opt;

    void storeNum(){

        cout<<"For this problem you need to save the contact information first.\nSo first input name = ";

        getline(cin, name[0]);

        cout<<"and phone number = ";

        cin>>num[0];

    }

    void saveAgain(){

        cout<<"Enter the name which you want to save = ";

        cin>>Sname;

        int size = sizeof(name) / sizeof(name[0]);

        for(int i = 0; i < size; i++){

            if(Sname == name[i]){

                cout<<"Name already exist! Do you want to save this number in the same name?\nPress - 1 for YES\nPress - 2 for NO.\nPress now = ";

            }

        }

        cin>>opt;

        if(opt == 1){

            name[1] = Sname;

            cout<<"Enter the number which you want to save = ";

            cin>>num[1];

            cout<<"Number saved!";

        }

    }

};

int main()

{

    fuad obj;

    obj.storeNum();

    obj.saveAgain();

}

Text

Description automatically generated

Problem-7:

#include<bits/stdc++.h>

using namespace std;

class fuad{

    public:

    int a, b, c;

    void input(){

        cout<<"Enter three numbers = ";

        cin>>a>>b>>c;

    }

    int checker(){

        if(a > b){

            if(b > c)   return 0;

        }

        else{

            if(c > b){

                if(b > a)   return 1;

            }

        }

        return 2;

    }

};

int main()

{

    fuad obj;

    obj.input();

    int res = obj.checker();

    if(res == 0)    cout<<"Decreasing order."<<endl;

    else if(res == 1)   cout<<"Increasing order."<<endl;

    else    cout<<"Neither increasing or decreasing order"<<endl;

    return 0;

}

Text

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Problem-8:

#include<bits/stdc++.h>

using namespace std;

class fuad{

    public:

    string cName[4] = {"DLD", "Assembly Language", "Operating System", "Numerical Mathematics"};

    string cCode[4] = {"CSC329", "CSC197", "CSC107", "MAT247"};

    string cDate[4] = {"11April", "11April", "16April", "18April"};

    string cTime[4] = {"8:30AM", "1:00pm", "8:30AM", "8:30AM"};

    void allCoursesInfoPrint(){

        for(int i = 0; i < 4; i++){

            cout<<"Exam - "<<i+1<<" info.\n";

            cout<<"Course name: "<<cName[i]<<endl;

            cout<<"Course Code: "<<cCode[i]<<endl;

            cout<<"Course Date: "<<cDate[i]<<endl;

            cout<<"Course Time: "<<cTime[i]<<endl<<endl;

        }

    }

    void findConflict(){

        for(int i = 0; i < 3; i++){

            for(int j = i+1; j < 4; j++){

                if(cDate[i] == cDate[j]){

                    if(cTime[i] == cTime[j]){

                        cout<<"CONFLICT!!"<<endl;

                    }

                }

            }

        }

    }

};

int main()

{

    fuad obj;

    obj.allCoursesInfoPrint();

    obj.findConflict();

    return 0;

}

Text

Description automatically generated