```cpp
#include<iostream>
#include <string>
using namespace std;
class Student{
    public:
    string name;
    void setGPA(float gpa){
        GPA=gpa;
    }
    float getGPA(){
        return GPA;
    }
    void setID(int id){
        ID=id;
    }
    int getID(){
        return ID;
    }
    protected:
    int ID;
    private:
    float GPA;

int main(){
    Student students[10];
    int tempID,maxpos;
    float tempGPA,max=0;
    for(int i=0;i<10;i++){
        cout<<"Enter the name of student "<<i+1<<"\n";
        cin>>students[i].name;
        cout<<"Enter the ID of student "<<i+1<<"\n";
        cin>>tempID;
        students[i].setID(tempID);
        cout<<"Enter the GPA of student "<<i+1<<"\n";
        cin>>tempGPA;
        students[i].setGPA(tempGPA);
        if(tempGPA>max){
            max=tempGPA;
            maxpos=i;
        }
    }
    cout<<"Name \t ID \t GPA \n";
    for(int i=0;i<10;i++){
        cout<<students[i].name<<"\t"<<students[i].getID()<<"\t"<<students[i].getGPA()<<endl;
    }
    cout<<"\n";
    cout<<"The highest GPA is "<<students[maxpos].getGPA()<<" belonging to "<<students[maxpos].name<<" with ID "<<students[maxpos].getID()<<endl;
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
Enter the GPA of student 10
4.0
Name     ID      GPA
A       1       3.5
B       2       1.2
C       3       1.6
D       4       3.6
E       5       2.7
F       6       2.4
G       7       3.9
H       8       2.5
I       9       2
K       10      4

The highest GPA is 4 belonging to K with ID 10
```

ex2.cpp > main()

```cpp
#include<iostream>
#include <string>
using namespace std;
class laptops{
    public:
    string laptopcompany;
    protected:
    string processorname;
};
class processor: laptops{
    public:
    void setvalue(string t){
        processorname=t;
    }
    string printvalue(){
        cout<<"\t"<<processorname;
    }
};
main(){
    laptops laps[10];
    processor proc[10];
    string tempname;
    for(int i=0;i<10;i++){
        cout<<"Enter the name of the laptop company";
        cin>>laps[i].laptopcompany;
        cout<<"Enter the name of the processor in the laptop (AMD, Intel, etc)";
        cin>>tempname;
        proc[i].setvalue(tempname);
    }
    cout<<"Company \t Processor";
    cout<<"\n";
    for(int i=0;i<10;i++){
        cout<<laps[i].laptopcompany<<"\t";
        proc[i].printvalue();
        cout<<endl;


    }
}

```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
Enter the name of the processor in the laptop (AMD, Intel, etc)Intel
Enter the name of the laptop companyNVIDIA
Enter the name of the processor in the laptop (AMD, Intel, etc)Geforce
Enter the name of the laptop companyFinal
Enter the name of the processor in the laptop (AMD, Intel, etc)IDK
Company          Processor
Lenovo          AMD
Samsung         Intel
Dell            Pentium
Apple           IOS
Xiaomi          CHI
Huawei          AMD
Redmi           AMD
Sony            Intel
NVIDIA          Geforce
Final           IDK
PS C:\Users\Shahn\Desktop>
```

ex3.cpp > main()

```cpp
#include <iostream>
#include <string>
using namespace std;
class appliances{
    public:
    virtual void open() =0;
    virtual void close() = 0;
};
class oven : public appliances{
    bool status;
    public:
    void open() {cout<<"The oven is now open"<<endl;};
    void close() {cout<<"The over is now closed"<<endl;
};
class fridge : public appliances{
    int items;
    public:
    void open(){cout<<"The frige is open"<<endl;};
    void close(){cout<<"The fridge is closed"<<endl;};
};
main(){
    oven myoven;
    fridge myfridge;
    myfridge.open();
    myoven.open();
    myfridge.close();
    myoven.close();
}
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
PS C:\Users\Shahn\Desktop> cd "c:\Users\Shahn\Desktop\" ; if (
The frige is open
The oven is now open
The fridge is closed
The over is now closed
PS C:\Users\Shahn\Desktop>
```