```cpp
#include <iostream>
#include <string>
using namespace std;

class Student{
    public:
        Student(int si,string n,int s){
            student_id = si;
            name = n;
            score = s;
        }
        void display(){
            cout<<"student_id:"<<student_id<<" ";
            cout<<"name:"<<name<<" ";
            cout<<"score:"<<score<<endl;
        }
        private:
            int student_id;
            string name;
            int score;
};

int main(){
    Student std[5] = {
        Student(1,"name1",98),
        Student(2,"name2",95),
        Student(3,"name3",90),
        Student(4,"name4",87),
        Student(5,"name5",60),
    };
    for(int i = 0;i < 5;i = i + 2){
        std[i].display();
    }
    return 0;
}
```
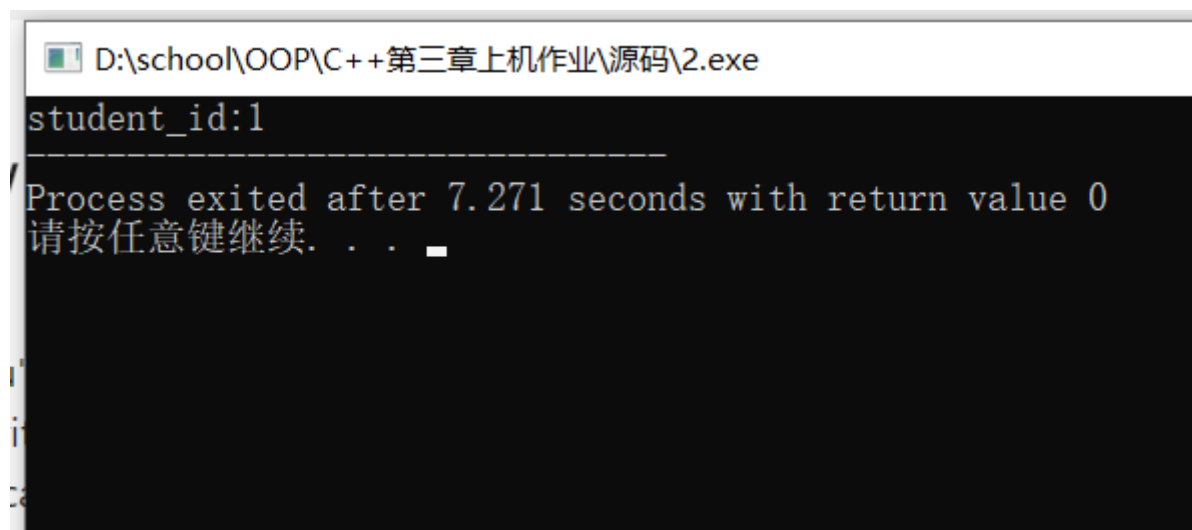
D:\school\OOP\C++第三章上机作业\源码\1.exe

```
student_id:1 name:name1 score:98
student_id:3 name:name3 score:90
student_id:5 name:name5 score:60

--------------------------------
Process exited after 10.01 seconds with return value 0
请按任意键继续. . .
```

```cpp
#include <iostream>
#include <string>
using namespace std;
class Student{
    public:
        Student(int si,string n,int s){
            student_id = si;
            name = n;
            score = s;
        }
        void display(){
            cout<<"student_id:"<<student_id<<" ";
            cout<<"name:"<<name<<" ";
            cout<<"score:"<<score<<endl;
        }
        void display_id(){
            cout<<"student_id:"<<student_id<<" ";
        }
        int student_id;
        string name;
        int score;
};


int main(){
    Student stu[7] = {
        Student(1,"name1",98),
        Student(2,"name2",95),
        Student(3,"name3",90),
        Student(4,"name4",87),
        Student(5,"name5",60),
        Student(6,"name6",64),
        Student(7,"name7",38),
    };
    int max = 0;
    Student *p = &stu[0];
    for(int i = 0;i < 8;i++){
        if(stu[i].score > stu[max].score)
            max = i;
    }
    p = &stu[max];
    p->display_id();
    return 0;
}
```

```
student_id:1
--------------------------------
Process exited after 7.271 seconds with return value 0
请按任意键继续. . .
```

3

```cpp
#include <iostream>
using namespace std;
template <class T>
class Compare{
    public:
        Compare(T a,T b){
            x = a;
            y = b;
        }
        T Max(){
            return (x>y)?x:y;
        }
        T Min(){
            return (x<y)?x:y;
        }
    private:
        T x,y;
};

int main(){
    Compare <int> cmp1(3,7);
    cout<<cmp1.Max()<<endl;
    cout<<cmp1.Min()<<endl<<endl;

    Compare <float> cmp2(46.7,98.5);
    cout<<cmp2.Max()<<endl;
    cout<<cmp2.Min()<<endl<<endl;

    Compare <char> cmp3('A','a');
    cout<<cmp3.Max()<<endl;
    cout<<cmp3.Min()<<endl<<endl;

    return 0;
}
```

```
D:\school\OOP\C++第三章上机作业\源码\4.exe

12/25/2004
10:13:56

-----------------------------------
Process exited after 10.09 seconds with return value 0
请按任意键继续. . .
```

5

```cpp
#include <iostream>
using namespace std;
class Student{
    public:
        Student(int n,float s){
            num = n;
            score = s;
        }
        void total();
        static float average();
    private:
        int num;
        float score;
        static float sum;
        static int count;
};

void Student::total(){
    sum+=score;
    count++;
}

float Student::average(){
    return (sum/count);
}

float Student::sum = 0;
int Student::count = 0;

int main(){
    Student stud[5] = {
        Student(01,70),
        Student(02,45),
        Student(03,78),
        Student(04,98),
        Student(05,56)
    };
    int n;
    cout<<"please input the num of students:";
```

```cpp
    cin>>n;
    for(int i = 0;i < n;i++)
        stud[i].total();
    cout<<"the average score of "<<n<<" students is "<<Student::average()<<endl;
    return 0;
}
```

D:\school\OOP\C++第三章上机作业\源码\5.exe

```
please input the num of students:5
the average score of 5 students is 69.4

_____

Process exited after 16.43 seconds with return value 0
请按任意键继续. . .
```

6

```cpp
#include <iostream>
using namespace std;
class Box{
    public:
        Box(int w,int len){
            width = w;
            length = len;
        }
        int volume(){
            return(height * width * length);
        }
        static int height;
        int width;
        int length;
};

int Box::height = 10;
int main(){
    Box a(15,20),b(20,30);
    cout<<a.volume()<<endl;
    cout<<b.volume()<<endl;
    return 0;
}
```

```
D:\school\OOP\C++第三章上机作业\源码\6.exe
```

```
3000
6000
                                    8

_____

Process exited after 7.435 seconds with return value 0
请按任意键继续. . .
```

```cpp
#include <iostream>
using namespace std;
class Time{
    public:
        Time(int h,int m,int s){
            hour = h;
            minute = m;
            sec = s;
        }
        int hour;
        int minute;
        int sec;
};

int main(){
    Time t1(2021,10,28);
    Time *p = &t1;
    cout<<p->hour<<":"<<p->minute<<":"<<p->sec<<endl;
    return 0;
}
```

```
D:\school\OOP\C++第三章上机作业\源码\7.exe
```

```
2021:10:28

_____

Process exited after 6.799 seconds with return value 0
请按任意键继续. . .
```

```cpp
#include <iostream>
using namespace std;
class Box{
    public:
        Box(int h = 10,int w = 10,int len = 10){
            height = h;
            width = w;
            length = len;
        }
        int volume(){
            return (height*width*length);
        }
        private:
            int height;
            int width;
            int length;
};

int main(){
    Box box1 = (15,30,20),
    box2 = (23,41,18);
    cout<<box1.volume()<<endl;
    cout<<box2.volume()<<endl;
    return 0;
}
```

D:\school\OOP\C++第三章上机作业\源码\8.exe

```
2000
1800


--------------------------------
Process exited after 8.435 seconds with return value 0
请按任意键继续. . .
```

9

![9](D:\school\OOP\lesson6\截屏\9.png)

```cpp
#include <iostream>
using namespace std;
class Box{
    public:
        Box(int,int,int);
        int volume();
        private:
            int height;
            int width;
            int length;
};
```

```cpp
Box::Box(int h,int w,int len){
    height = h;
    width = w;
    length = len;
}

int Box::volume(){
    return (height*width*length);
}

int main(){
    Box box1(12,25,30);
    Box box2(15,20,21);
    cout<<box1.volume()<<endl;
    cout<<box2.volume()<<endl;
    return 0;
}
```

■ D:\school\OOP\C++第三章上机作业\源码\9.exe

```
9000
6300

--------------------------------
Process exited after 6.69 seconds with return value 0
请按任意键继续. . .
```

10

```cpp
#include <iostream>
using namespace std;
int main(){
    int a[3] = {38,25,56};
    for(int j = 0;j < 2;j++){
        if(a[j] > a[j+1]){
            int m;
            m = a[j];
            a[j] = a[j+1];
            a[j+1] = m;
        }
    }
    for(int i = 0;i < 3;i++)
        cout<<a[i]<<endl;
    return 0;
}
```

```
25
38
56
```