

# Lab 8

**1: read and run following code in your computer and see the result (I won't check this)**

```
#include<iostream>
#include<string>
#include<cstdlib>
using namespace std;
void keep() { char c; cin >> c; }
void main()
{
    cout << "the value of left: " << endl;
    int x = 3;
    int y = x++;
    cout <<"x=3:      " << x << endl<<endl;
    cout <<"y=x++:      "<< y<<endl<<endl;
    int z = ++x;
    cout <<"z=++x:      " << z<<endl<<endl;
    int *p = new int[4]{1,4,7,10};
    int a = *p;
    int b = *p++; // derefer p, then increase the address
    int b1 = *p;
    int c = ++*p;
    int d = *(++p);
    int e = *(p--);
    int f = *++p;
    int g = (*p)++;
    int g1 = *p;

    cout <<"a=*p:      "<< a << endl<<endl;
    cout <<"b=*p++:      "<<b << endl<<endl;
    cout <<"b1 = *p:      "<< b1 << endl<<endl;
    cout << "c=++*p:      " << c << endl << endl;
    cout <<"d=*(++p):      "<<d<< endl<<endl;
    cout <<"e=*(p--):      "<< e << endl<<endl;
    cout <<"f=*++p:      "<<f << endl<<endl;
    cout <<"g=(*p)++:      "<< g << endl<<endl;
    cout <<"g1=*p:      "<<g1 << endl<<endl;

    keep();
}
```

2,

- (a) Declare a struct with type name: `Name_pair` , with member: `string name`, `int age`
- (b) Implement a function: `add_pair`, it'll use an uninitialized `vector<Name_pair>` as its `parameter`. This function will ask user to `enter name` and `age` and `add them to this vector`, and this input process will `continue until` user `enter` a `string "exit"`.
- (c) Implement a function: `sort`, it'll sort the element of `vector` created above with an order of `age from young to old (or small to large order)`.