

classes, pointers, vectors, and memory allocation

Source: http://coding.derkeiler.com/Archive/C_CPP/comp.lang.cpp/2005-02/0795.html

mosfets_at_gmail.com

Date: 02/06/05

Date: 5 Feb 2005 23:37:02 -0800

Hi,

I'm having a little trouble figuring out the difference in terms of memory allocation between:

```
class person_info;
```

```
class A {
```

```
private:
```

```
    vector<person_info> list;  
};
```

```
class B {
```

```
private:
```

```
    vector<person_info*> list;  
};
```

```
int func1() {
```

```
    A* ptr1 = new A();
```

```
    B* ptr2 = new B();
```

```
    person_info info_stack;
```

```
    person_info* info_heap = new person_info();
```

```
}
```

ptr1 and ptr2 will be dynamically allocated in the heap, but when I add info_stack to ptr1's vector list, info_stack will be copied into the heap??? Or will info_stack still reside in the stack? If it is added into the heap, does A's memory get enlarged as a whole chunk? If there is not enough space for the whole chunk, will A get copied into another chunk in the heap big enough to fit it?

What happens when I exit func1 and info_stack gets destroyed, what will happen to the info_stack I put into the vector in ptr1? Can I still access it and keep using it?

When i add info_heap to ptr2's vector list, will the memory of B in the heap be enlarged as a whole chunk?

Sorry for so many questions, but I've been really confused about this for a while.

Thanks for any help, and for reading this!
John G