

Quiz Number 6 – solutions – section II
(Closed book/Closed Notes: 5 minutes)
Tuesday, February 13, 2004

Question: Does the following code work without compile time or runtime errors? YES

```cpp
#include <string>
#include <iostream>

using namespace std;

class A {
public:
    A(string s) {cout << "A c'tor with " << s << endl;}
    virtual void foo() {cout << "A foo()" << endl;}
};

class B:virtual public A {
public:
    B():A("bababa") {cout << "B c'tor" << endl;}
};

class C:virtual public A {
public:
    C():A("cacaca") {cout << "C c'tor" << endl;}
    virtual void foo() {cout << "C foo()" << endl;}
};

class D:public B, public C {
public:
    D():A("dadada") {cout << "D c'tor" << endl;}
};

int main() {
    D d;
    d.foo();

    C& cRef = d;
    cRef.foo();

    B* bPtr = &d;
    bPtr->foo();

    B b = d;
    b.foo();

    A& aRef = d;
    aRef.foo();

    return 0;
}
```

If not, do the minimum to fix it. Indicate it on the code above. Not Needed!

What will be the output of the code (whether it ran correctly as is OR after your fix!)?

```
A c'tor with dadada
B c'tor
C c'tor
D c'tor
C foo()
C foo()
A foo()
C foo()
```