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You are working on problem
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? polymorphismMystery6

Language/Type: C++ [inheritance](#)
[polymorphism](#)

Consider the following classes; assume that each is defined in its own file.

```
class Amazon : public Facebook {  
public:  
    virtual void b() {  
        cout << "AM B" << endl;  
        a();  
    }  
  
    virtual void c() {  
        cout << "AM C" << endl;  
        Facebook::c();  
    }  
  
    virtual void d() {  
        cout << "AM D" << endl;  
        c();  
    }  
};  
  
class Microsoft : public Google {  
public:  
    virtual void b() {  
        cout << "MS B" << endl;  
        a();  
    }  
  
    virtual void c() {  
        cout << "MS C" << endl;  
        Google::c();  
    }  
}
```

};

```

class Google {
public:
    virtual void a() {
        c();
        cout << "G A" << endl;
    }

    virtual void c() {
        cout << "G C" << endl;
    }
};

```

```

class Facebook : public Google {
public:
    virtual void a() {
        cout << "FB A" << endl;
    }

    virtual void c() {
        cout << "FB C" << endl;
    }
};

```

Now assume that the following variables are defined:

```

Google*   var1 = new Facebook();
Facebook* var2 = new Amazon();
Google*   var3 = new Amazon();
Google*   var4 = new Microsoft();

```

In the table below, indicate in the right-hand column the output produced by the statement in the left-hand column. If the statement produces more than one line of output, indicate the line breaks with slashes as in "x / y / z" to indicate three lines of output with "x" followed by "y" followed by "z". If the statement does not compile, write "COMPILER ERROR". If a statement would crash at runtime or cause unpredictable behavior, write "CRASH".

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var1->a();

FB A

var1->b();

COMPILER ERROR

var1->c();	FB C
var2->a();	FB A
var2->b();	COMPILER ERROR
var2->c();	AM C / FB C
var3->a();	FB A
var3->b();	COMPILER ERROR
var4->a();	MS C / G C / G A
((Facebook*) var1)->a();	FB A
((Facebook*) var1)->d();	COMPILER ERROR
((Amazon*) var2)->d();	AM D / AM C / FB C
((Microsoft*) var3)->b();	CRASH
((Facebook*) var4)->a();	CRASH
((Facebook*) var4)->b();	COMPILER ERROR



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#	question	your answer	result
1	var1->a();	FB A	✓ pass
2	var1->b();	COMPILER ERROR	✓ pass
3	var1->c();	FB C	✓ pass
4	var2->a();	FB A	✓ pass
5	var2->b();	COMPILER ERROR	✓ pass
6	var2->c();	AM C / FB C	✓ pass
7	var3->a();	FB A	✓ pass
8	var3->b();	COMPILER ERROR	✓ pass
9	var4->a();	MS C / G C / G A	✓ pass
10	((Facebook*) var1)->a();	FB A	✓ pass
11	((Facebook*) var1)->d();	COMPILER ERROR	✓ pass
12	((Amazon*) var2)->d();	AM D / AM C / FB C	✓ pass
13	((Microsoft*) var3)->b();	CRASH	✓ pass
14	((Facebook*) var4)->a();	CRASH	✓ pass
15	((Facebook*) var4)->b();	COMPILER ERROR	✓ pass

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