Overloading/Overriding

Consider the following inheritance hierarchies:

A
void meth(A a) {...} void meth(D d) {...} void meth(E e) {...}

B
void meth(A a) {...} void meth(B b) {...} void meth(D d) {...} void meth(E e) {...}

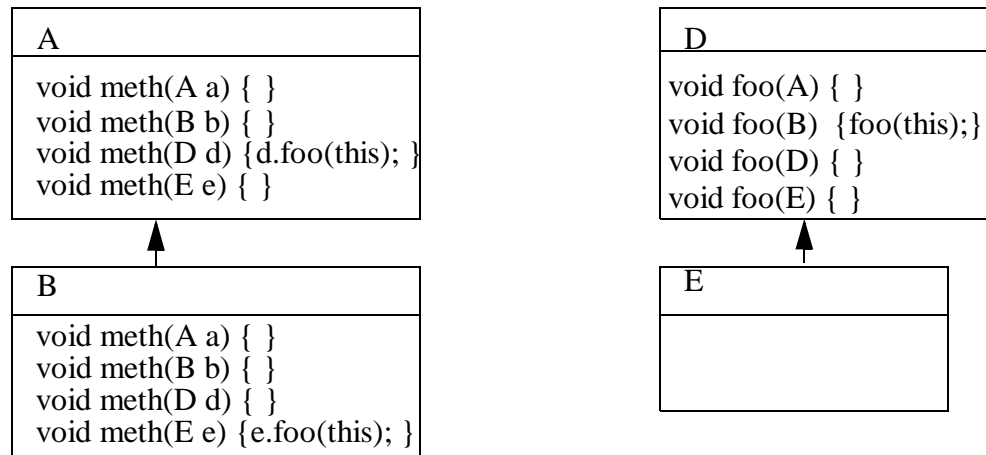| C |
|---|
| void meth(A a) {...}
void meth(C c) {...} |

D
...

E
...
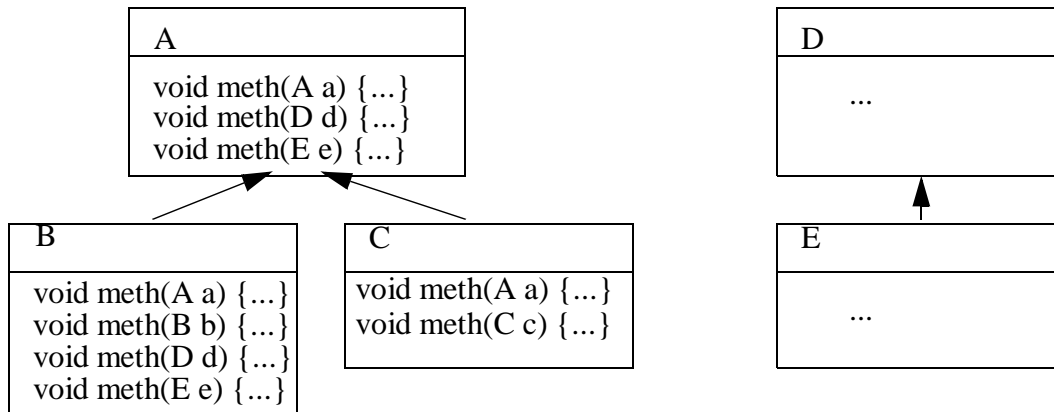
What methods get called for each of the 6 method calls in the program fragment below? (Make sure to give the full signature of the method, as well as the class it's in.)

```
B b = new B();
A a= b;
C c = new C();
E e = new E();
D d = e;
```

a) a.meth(a);
b) a.meth(b);
c) ((A) c).meth(a);
d) c.meth((A)c);
e) a.meth(d);
f) a.meth(e);

Consider the following inheritance hierarchies:

A
void meth(A a) { } void meth(B b) { } void meth(D d) {d.foo(this); } void meth(E e) { }

D
void foo(A) { } void foo(B) {foo(this);} void foo(D) { } void foo(E) { }

B
void meth(A a) { } void meth(B b) { } void meth(D d) { } void meth(E e) {e.foo(this); }

E

(We don't care about any of the code or methods not shown.) These classes are used to instantiate objects as follows:

    B b = new B();
    A a= b;
    E e = new E();
    D d = e;

Which of the shown methods get called in the following cases (mention all called in order, and show each method's full signature and class):

a) a.meth(d);
b) a.meth(a);
c) d.foo(b);
d) e.foo(b);
e) a.meth(e);
f) e.foo(d);