

## Inheritance

What does the following code print out?

```
#include <iostream>
using namespace std;

class Alpha {
public:
    Alpha() { cout << "a"; }
    virtual void Click() { cout << "X"; }
};

class Beta:public Alpha {
    static int x;
public:
    void Click() { cout << x++; }
};

int Beta::x = 1;

int main() {
    cout << "\n\n";

    Alpha A;
    Beta B;

    A.Click();
    B.Click();

    Alpha * ptr = &A;
    ptr->Click();

    ptr = &B;
    ptr->Click();    // uses click function of object being pointed to

    // A = B;
    A.Click();

    // Beta * ptr2 = &A;  // cannot do this
    Beta * ptr2 = &B;
    ptr2->Click();    // ptr is Beta type

    A = B;

    ptr2->Click();

    cout << "\n\n";
    return 0;
}
```

OUTPUT:

aaX1X2X34