

Find all the names!

```
class C {  
    int a;  
    public void frobnicate(int x) {  
        a = a + x;  
    }  
}
```

```
class D {  
    static final int b = 42;  
    C c;  
};
```

Static scope

```
int main()  
{  
    int x, y;  
    scanf("%d %d", &x, &y);  
    {  
        int temp;  
        temp = x;  
        x = y;  
        y = temp;  
    }  
    printf("%d %d", x, y);  
    return 0;  
}
```

Static scope

```
int foo(int a)
{
    int x;
    x = a;
    return x * x;
}

int bar (int a)
{
    int x;
    return x * x;
}

int main()
{
    return foo(3) * bar(4);
}
```

Dynamic scope

```
class Dynamic {
    static int addb(int a) {
        return a + b;
    }

    static int intermediate(int x) {
        return addb(x);
    }

    static void caller1() {
        int b = 3;
        System.out.println(intermediate(7));
    }

    static void caller2() {
        int b = 2;
        System.out.println(intermediate(2));
    }

    public static void main(String args[]) {
        caller1();
        caller2();
    }
}
```

Call by reference (sharing)

```
void foo(int b)
{
    b = 2;
}
```

```
int main()
{
    int a = 1;
    foo(a);
    return a;
}
```

```
void foo(int b)
{
    b = 2;
}
```

```
int main()
{
    int a = 1;
    foo(a + 1);
    return a;
}
```

Call by name

```
swap(int a, b) {  
    int temp;  
    temp = a;  
    a = b;  
    b = temp;  
}  
  
main() {  
    ...  
    swap(i, a[i]);  
    ...  
}
```

Call by name

```
int c; /* global variable */

swap(int a, b) {
    int temp;
    temp = a;
    a = b;
    b = temp;
    c++;
}

main() {
    int c, d;
    ...
    swap(c, d);
    ...
}
```