

Solution

```
class VariableScope {  
    int x = 5;  
    int y = x + 1;  
    int z = w + 1; // (Q1) legal or illegal? illegal as "w" is not yet defined  
  
    void foo(int a) {  
        int x = 0;  
        int k = x; // (Q2) What value is k assigned? 0 as x shadows global variable "x"  
        if (k == 0) {  
            int m = -1; // scope of m is within this if statement  
        }  
        k = m; // (Q3) legal or illegal? illegal as scope of "m" ended with if statement  
        bar();  
    }  
    void bar() {  
        int b = k; // (Q4) legal or illegal? illegal as k's scope was only in foo  
        int c = w; // (Q5) legal or illegal? legal as "w" is global even though it was  
                    defined below bar() method  
    }  
    int w = 5; // another global variable  
}
```