

1 Structs and Instance Variables. Answer the following questions about the global variables `a` and `b`, declared as follows. Assume that `int`'s and pointers are **4-bytes** long.

```
struct A {
    char x;
    int y[3];
    struct B* z;
};

struct A* a;
struct B b;

struct B {
    struct A j;
    int k;
};
```

Treat each sub-question separately (i.e., do not use values computed in prior sub-questions). Comments are not required, but they will probably help you.

1a Give assembly code for the C statement: `b.k = a->z[2].k;`.

1b How many memory reads are required to execute the statement? Fill in a single multiple choice option below.

`b.k = a->z->j.z->j.y[2];`

0○ 1○ 2○ 3○ 4○ 5○ 6○ 7○ 8○