Quiz 5  
CSE 30  
Fall 2003

Use these words (and possibly a combination of these words) to answer #1. May be used more than once.

static  | global  | local  | extern  | internal
---|---|---|---|---
external | parameter | initialized | uninitialized | default
executable | preprocessor | assembler | linker | loader
compiler | lint | purify | debugger | L1/L2 cache
entire src module | Data | entire function | dynamic | entire program
BSS | Heap | Stack | volatile | registers
Write-Back | Write-Through | function call | buffer cache | disk

#1. An initialized internal static variable has local scope/visibility to the __________________________ in which it is defined but is stored in the _____________ segment and therefore the lifetime/duration of this variable is the lifetime of the ________________________.

When a function is declared to be static, it’s scope/visibility is _______________________________.

___________________________ linking usually results in smaller executables.

The keyword to turn off optimizations that may be applied to a variable is ________________________.

#2. How many bits are available in a SPARC Format 3 instruction to hold an immediate constant?

_____________________

How many bits are needed to encode a specific register (i.e. register %l4) in a SPARC instruction?

_____________________

(over)
#3. Given the following program, reorder the printf lines so that the values that are printed are sorted from smallest to largest if compiled and run on a Sun SPARC architecture. These lines print out the address of the different parts of the program (not the values assigned).

```c
int a = 420;

int main( int argc, char *argv[] ) {
    static int b;
    int c;

    /* 1 */ (void) printf( "a --> %p\n", &a );
    /* 2 */ (void) printf( "main --> %p\n", main );
    /* 3 */ (void) printf( "b --> %p\n", &b );
    /* 4 */ (void) printf( "malloc --> %p\n", malloc(505) );
    /* 5 */ (void) printf( "c --> %p\n", &c );
    /* 6 */ (void) printf( "argc --> %p\n", &argc );
}
```

_________

This line number would print the smallest value

_________

_________

_________

_________

_________

This line number would print the largest value

What question would you most like to see on the Final Exam?