Quiz 5
CSE 30
Spring 2007

1) Which part of the entire compilation sequence clear through to program execution is responsible for:

a) ensuring the bss segment is set up and zero-filled ________________________________

b) creating an executable from multiple object files ________________________________

c) translating C source code into assembly target code ________________________________

d) resolving undefined external references with defined global references in other modules _________________

e) getting the executable image from disk into memory ________________________________

f) translating assembly source code into object target code ________________________________

Variables declared to be _________________ will not be optimized by the compiler.

List 2 ways/events which would cause a full context switch to occur:

1)

2)

2) What gets printed if the following function is invoked as \texttt{recurse( 2, 10 )}?

\begin{verbatim}
int recurse( int a, int b ) {
    int local = b - a;
    int result;

    if ( b > 7 )
        result = local + recurse( a, b - 1 );
    else
        result = local;

    printf( "%d\n", result );

    return result;
}
\end{verbatim}

(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) with the printf() format specifier %p.

```c
int a = 420;

int main( int argc, char *argv[] ) {
    static int b;
    int c = 404;

    /* 1 */ (void) printf( "b -- %p\n", &b );
    /* 2 */ (void) printf( "a -- %p\n", &a );
    /* 3 */ (void) printf( "main -- %p\n", main );
    /* 4 */ (void) printf( "argc -- %p\n", &argc );
    /* 5 */ (void) printf( "malloc -- %p\n", malloc(50) );
    /* 6 */ (void) printf( "c -- %p\n", &c );
}
```

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?