#1. In C, an initialized internal static variable has ____________ scope and has memory allocated in the ____________ section of the run time environment. An uninitialized external static variable has ____________ scope and has memory allocated in the ____________ section of the run time environment.

List the 2 main functions of the Linkage Editor:

1) 
2) 

The keyword _________________ is used to turn off all kinds of optimizations in C/C++/Java.

List 2 advantages of dynamic linking.

1) 
2) 

List 1 advantage of static linking.

1) 

#2. What gets printed if the following function is invoked as `recurse( 5, 2 )`?

```c
int
recurse( int a, int b ) {
    int local = a + b;
    int result;
    if ((local % b) != 0 )
        result = local + recurse( a, b + 1 );
    else
        result = local;
    printf( "%d\n", result );
    return result;
}
```

Put answers here

(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;

int main( int argc, char *argv[] ) {
    int b = 420;
    static int c = 404;

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

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? (1 pt)