1) Convert $57.625_{10}$ to binary fixed-point and single precision IEEE floating-point representation (expressed in hexadecimal).

binary fixed-point ______________________________ x $2^0$

IEEE floating-point ______________________________ (hexadecimal)

b) Convert $0xC2D7C000$ (single precision IEEE floating-point representation) to fixed-point decimal.

fixed-point decimal ______________________________ (decimal / no exponential notation)

List 2 C programming entities/parts that have local function scope/visibility, one stored on the stack and one not stored on the stack:

1) 

2) 

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

2) What gets printed if the following function is invoked as $\text{recurse}(5, 10)$?

```c
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;
}
```

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;
    static int c = 404;

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

This line number would print the smallest value

This line number would print the largest value

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