

## CSCI 455 Project 3 Discussion

1. In step 5 of the Procedure section, you looked at block 0x2001. What is this block? Why is it there? *(5pts)*
2. How many block groups are there in your filesystem image? How did you determine this? *(5pts)*
3. Draw a diagram of the high-level filesystem structure, labeling the important metadata blocks: superblock, block-group descriptor table, block bitmap, inode bitmap, and inode table. Give block numbers for each of these (you can use decimal or hex) as well as the first and last block number. *(10pts)*
4. How much data can an inode in this filesystem store if it only uses direct blocks? What if it uses direct blocks plus a singly-indirect block? *(5pts)*
5. When you looked at the inode metadata for the deleted discussion questions in step 12, how could you tell the file had been deleted? *(3pts)*
6. What is the name for a special string, like the one in a bitmap file header, that identifies the file type? *(2pts)*
7. There is another useful field in the .BMP file header that will help us replace some lost file metadata. What is it? What is the value of this field in the block identified by the `carve` program? (Remember, it's probably stored in little-endian format.) *(5pts)*
8. What is the passcode in the bitmap file I lost? (Partial credit will be determined based on code.) *(20pts)*
- ★★ Extra credit question: What did I do to the filesystem so that you would not inadvertently mount it? *(3pts)*