Problem 1:
A file system uses UNIX inode data structure which contains **8** direct block addresses, **2** single indirect blocks, **2** double indirect blocks and **2** triple indirect blocks. The size of each block is **32 Bytes** and the size of each block address is **4 Bytes**. Find the maximum possible file size?

Problem 2:
A file system has inode size = **512B** and block size = **4KB**. The first **3** blocks contain superblock, data bitmap and inode bitmap. Now calculate the address of the inode number **23**. The disk is sector addressable and the size of each sector is **256 B**. Find out the sector address of the inode block.

Problem 3:
An existing file named "a1" needs to be read which is allocated in **2** data blocks.

- Path of the file: "/new/one/a1"
- To read the file it was opened first by open() system call.
- After opening the file read() system call was issued in the file to read the contents.

Illustrate the file access path timeline according to the scenario described above.

Problem 4:
A file named "b1.c" has been created by create() system call.

- Path of the newly created file: "/abc/def/b1.c"
- After creating the file write() system call was issued in the file to write new contents and after the write operation the file has been allocated in **4** data blocks.

Illustrate the file access path timeline according to the scenario described above.