Assignment 1: Parallel Matrix Multiplication using OpenMP

Problem Definition: Given an object (consists of a number of points) in three-dimensional (3D) space, rotate it about an arbitrary vector/axis.

Input: An arbitrary axis and an object with N points, where each point is having three coordinates (X, Y, Z). Both are supplied in as files from the command line.

Output: Rotate the object about the given arbitrary axis.

Implementation: OpenMP C. Your program will read the number of threads from the command line.

Sample program execution is:

./a.out number_of_threads filename4arbitraryAxis filename4objectFile angleOFrotatoin

Assumptions:
1. Sample test sets for filename4arbitraryAxis and filename4objectFile are provided.
2. No scaling/shear is allowed during transformation. Make sure the shape of the object remains the same before and after the transformation.
3. In each step apply either translation or rotation about one axis. Do not multiply the rotation/transformation matrix to reduce the number of steps in execution.