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PROBLEM 1:**Things Learned:**

1. Better understanding of Vectors concept in C++.
2. Method overriding along with inheritance.
3. Using abstract classes and virtual functions.
4. Overriding abstract class functions in inherited class.

Problems Faced:

1. Implementing inheritance of abstract classes.
2. Faced some issues with overriding abstract class functions in inherited class.
3. In PointN class, because of vectors for data members.

PROBLEM 2:**Things Learned:**

1. Using various libraries for calculating time and stuff.
2. Generating random coordinates through rand functions.
3. Sorted magnitude of norms in a vector with the help of insertion sort algorithm.
4. Performance time for multiple (exponential) objects.

Problems Faced:

1. During generation of random coordinates using rand function.
2. Issues with calculating time limit for the sorting.
3. Faced issues with performing insertion sort of norms stored in a vector.
4. Faced issues with large magnitudes like 100, 1000, etc., i.e., why used small magnitude such as 10.

PROBLEM 3:**Things Learned:**

1. Doing fast sorting with the help of std::sort, present in C++ library. <[Link](#)> <[Link](#)>
2. Difference b/w the performance of insertion sort and std::sort.

Problems Faced:

1. Implementing fastSort function through std::sort.
2. Faced issues with large magnitudes like 100, 1000, etc., i.e., why used small magnitude such as 10.