**Graham's Scan Algorithm**

**Complexity Analysis :**

**1.** At first we sorted the given points to find out the point with the least ordinate and if such multiple points were found we considered the least abscissa. This sort took us **O(n)** .

**2.** Then we sorted the rest of the points with respect to the origin point on the basis of increasing order of angles made with the x-axis. This sort took us **O(nlogn)**.

**3.** Finding the points in the Convex Hull by maintaining the stack took us **O(n)** .

The overall time complexity is therefore **O(*n* log *n*),** since the time to sort dominates the time to actually compute the convex hull.

**Total Time Complexity :**

**T(n) = O ( nlogn )**