Computational Geometry - Home Work #1:

Convex hull:
Given a set S of points in the plan we want to find its convex hall (subset S).

1. Write the simplest algorithm you can think of, analyze its complexity.
2. Implement the above algorithm in (java, C#, or C++), the input and output format should be as shown in these examples: input.zip, output.zip
   The java program will be tested as following "java CH <input> <output>"
   See also the following "main" class for testing.
   The C# or C++ will be tested as using the following command line windows:
   CH.exe <input> <output>
3. Search the web and find a nice convex hall implementation (and its source code), that you can convert to 'suit' the above implementation.
4. Perform a simple compression between the simple method you have implemented in (1) and the one you found on the web (3): find the approximated input size (of a random set of points within the unit disk) for which each method runs in approximated one second.

Instructions:

- Your home work should be submitted as a doc / pdf file with proper references, figures etc'.
- You can assume general position and valid input (correct format - no need to check for duplications and other errors).
- Keep track on the time it takes U to complete the home work – it shouldn't take U ~8 hours to complete the home work.
- U can submit your home work in English or in Hebrew.
- This home work (Ex1) should be done and submitted alone! – no couples, no triplets …