1. ***Generating Barcodes.***

   Read the article *A roadmap for the computation of persistent homology*[1] by Otter, Porter, Tillman, Grindrod, and Harrington, and the supplementary materials[2].

   Set up a system that allows you to compute the persistent diagram of an *input point cloud*. You are allowed to use existing softwares on persistent homology chosen for your purpose, either for easy workflow or optimizing for speed. Feed the system with interesting data and explain the output.

   For full points, come to me in person and do a demonstration.

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[1] https://epjdatascience.springeropen.com/track/pdf/10.1140/epjds/s13688-017-0109-5.pdf
[2] https://github.com/n-otter/PH-roadmap