In-Class Activity #8
Vancouver Summer Program 2017
Algorithms and the Internet

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1. (Minimum Weighted Triangulation) A triangulation of a convex polygon P is a set of nonintersecting diagonals (chords between vertices of the polygon) that partitions the polygon into triangles. We say that the *weight* of a triangulation is the sum of the lengths of its diagonals. Any given polygon may have many different triangulations. We want to find the minimum weighted triangulation of a given convex polygon P.

   Hint: Label the vertices of P by $1, \ldots, n$ starting from an arbitrary vertex and walking clockwise. How many subproblems are there?

2. Given is a tree T with n vertices. Find minimum set of vertices such that every edge is covered on at least 1 end (i.e., if $\mathsf{VC} \subset V$ is a (vertex) cover of T, then every edge of T has an endpoint that is in VC).