**AFTER**

Let 𝐹 be a closed polygon on the plane, and 𝑃 = {𝑝1, 𝑝2, . . ., 𝑝𝑛}, which is its finite subset that contains all vertices of 𝐹. It is necessary to specify all triangulations of polygon 𝐹 with its vertices being represented by points from the set 𝑃. The algorithm for solving this problem is described in [3]. We provide an alternative description of this algorithm. Without losing generality, we consider the segment [𝑝1, 𝑝2] as a side of polygon 𝐹.

Consider the tree 𝒟 with its vertices represented by the ordered set of Δ1, Δ2, . . ., Δ𝑘 of triangles with vertices from the set 𝑃. The union of these sets is a connected set. The sets can be completed into the triangulation on 𝑃 by adding (to the right) other triangles (with vertices from 𝑃). Alternatively, these sets are already the triangulations on 𝑃. Additionally, the tree 𝒟 contains a null set ∅, which is the root of the tree. Let 𝑢 = Δ1, Δ2, . . ., Δ𝑘 and 𝑣 = Δ′1, Δ′2, . . ., and Δ′𝑙 is the two vertices of the tree 𝒟. Then, a curve goes from vertex 𝑢 to vertex 𝑣 only if 𝑙 = 𝑘 + 1 and if Δ𝑖 = Δ′𝑖 at 𝑖 = 1, 2, . . ., 𝑘. Thus, (𝑢, 𝑣) is an arc only if the set 𝑣 is obtained from the set 𝑢 by adding a triangle at the end of the set 𝑢. The leaves of the tree of 𝒟 correspond to the triangulations of polygon 𝐹 (with additional points from 𝑃).

Let 𝑢 = Δ1, Δ2, . . ., Δ𝑘, which is the vertex of the tree 𝒟 that is not a triangulation. Then, at least one arc originates from 𝑢. We introduce an order relation “≺” on the set of arcs that originate from 𝑢. Let there be two arcs (𝑢, 𝑣) and (𝑢, 𝑣′). Then, 𝑣 and 𝑣′ are obtained from the set 𝑢 by adding triangles Δ𝑘+1 and Δ′𝑘+1 to the end of set Δ𝑘+1 and Δ′𝑘+1, respectively. These triangles have common segments with triangles of the set 𝑢. Let 𝑎, 𝑏 and 𝑎′, 𝑏′ be the numbers of the vertices of these segments. Without losing generality, we consider that 𝑎 < 𝑏 and 𝑎′ < 𝑏′. Additionally, let 𝑐 and 𝑐′ be the numbers of the third vertices of triangles Δ𝑘+1 and Δ′𝑘+1. Then, we consider that (𝑢, 𝑣) ≺ (𝑢, 𝑣′) only if 𝑎 < 𝑎′ or when 𝑎 = 𝑎′ and 𝑏 < 𝑏′ or when 𝑎 = 𝑎′, 𝑏 = 𝑏′ and 𝑐 < 𝑐′. Thus, “≺” is a modification of a lexicographical order.

Furthermore, the numbering of the vertices from the set 𝑃 is such that the segment [𝑝1, 𝑝2] is a side of polygon 𝐹.