A graph $G(V, E)$ has a weight function $w$. It was suggested to solve the shortest path problem from $s$ by using the following algorithm:

1. Find the minimum weight of an edge, $w_{\text{min}} = \min \{ w(e) : e \in E \}$.
2. If $w_{\text{min}} < 0$, then for every edge $e \in E$, assign $w(e) = w(e) - w_{\text{min}}$.
3. Apply Dijkstra’s algorithm to find the shortest paths from $s$.

Specify weights for the edges in the following graph such that the algorithm above will not find the shortest path from $A$ to $E$. Do not create negative cycles. Show the shortest path from $A$ to $E$ in the original graph, and in the graph with the modified weights. Show the lengths of the shortest paths you listed.

Shortest path in the original graph: $<A,B,D,E>$ weight 1 -> 7
Shortest path in the modified graph: $<A,C,E>$ weight 2 -> 6
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