Input: $G = (V, E)$: graph to analyze
Input: n, m: order and size of G
Output: H: graph with n vertices where the neighbors of each vertex
       are those of distance one or two in G

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1  Algorithm: ExpandedNeighborhood
2  H = Graph(n) // Θ(n²)
3  for v ∈ V do
      // Θ(deg u) per iteration, Θ(deg v) iterations: total Θ(Σ deg u)
4     for u ∈ Nɢ(v) do
5        H.AddEdge(v, u) // Θ(1)
         // [Θ(n) or Θ(Δ)] × Θ(deg w) = Θ(n deg v) or Θ(Δ deg v)
6        for w ∈ Nɢ(u) do
7           H.AddEdge(v, w) // Θ(1)
8        end
9     end
10 end
11 return H        // Θ(1)
```

Σ(n deg v) or Σ(Δ deg v)
$n^2 + n \times m$ or $n^2 + \Delta \times m$