P – Center Algorithm

Step 1 Choose any point *x* on the graph and find a farthest point, call that point *e1 (exremum point 1)*

- Run Dijkstra from point *x* to all other points on the graph and pick the point with the largest shortest path from *x*

Step 2 Find a farthest point from *e1*, call it *e2 (extremum point 2)*

- Run Dijkstra from point *e1* to all other points on the graph and pick the point with the largest shortest path from *e1*
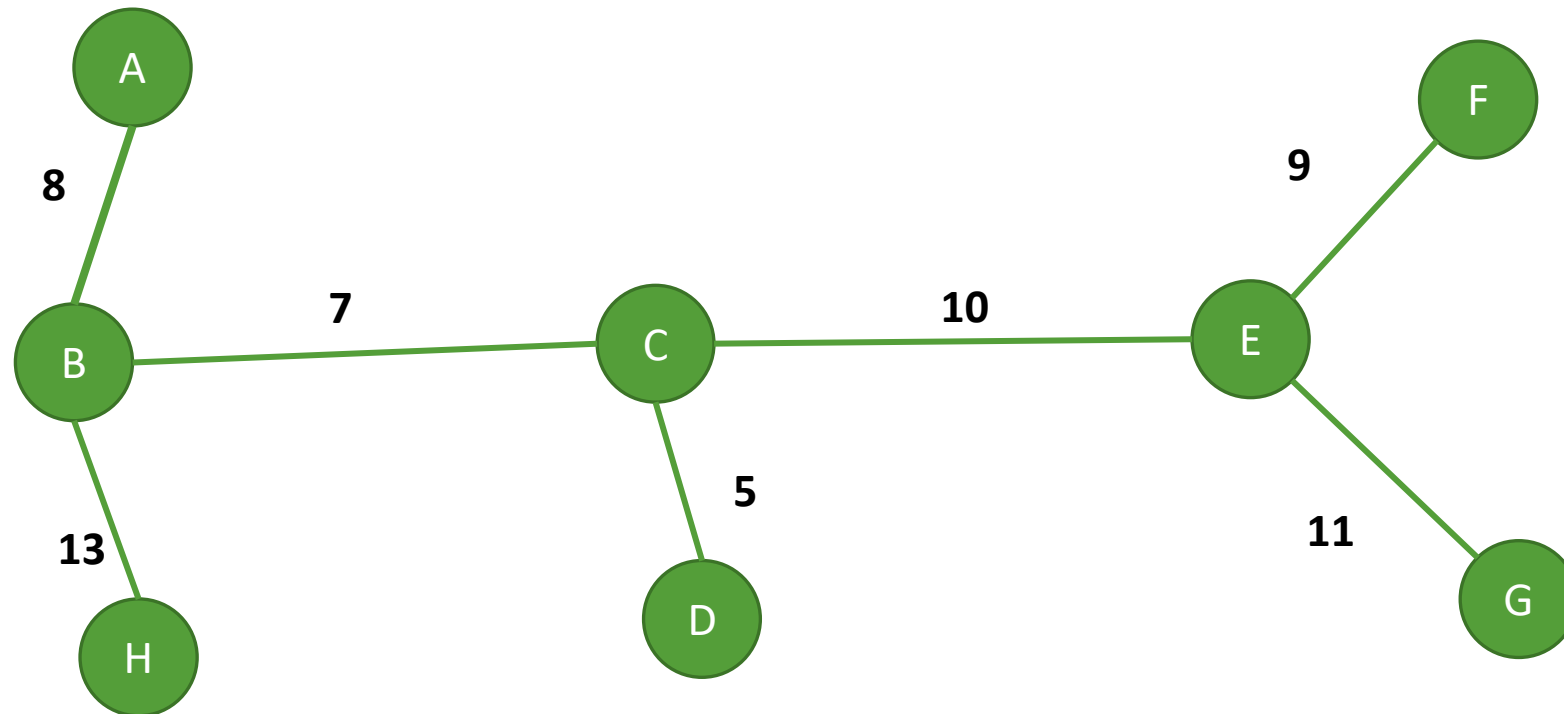
Step 3 The Absolute Center (AC) of the graph is at the midpoint of the path connecting *e1* to *e2*

- Work back along the path until you cover half the distance

If the AC is along an edge of the graph, the Vertex Center (VC) will be at the node closest to the AC
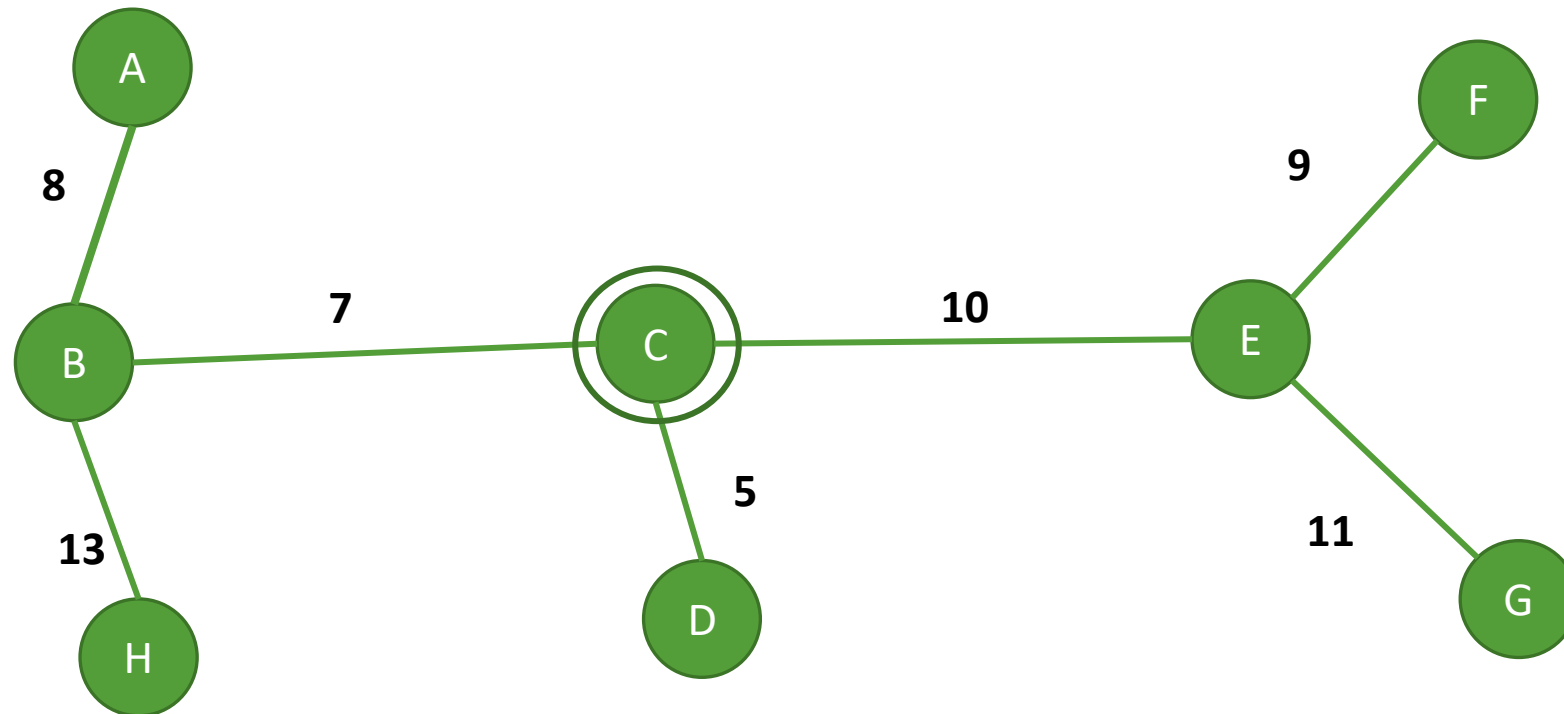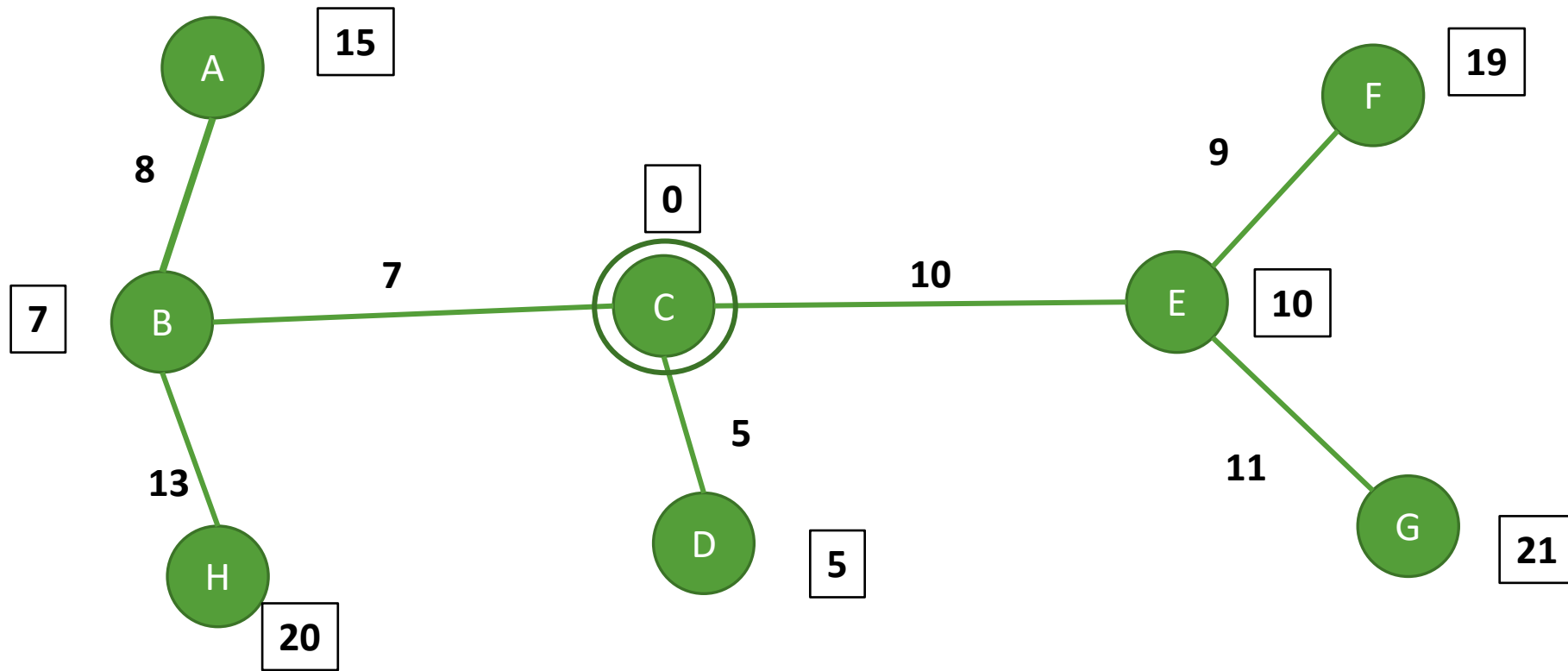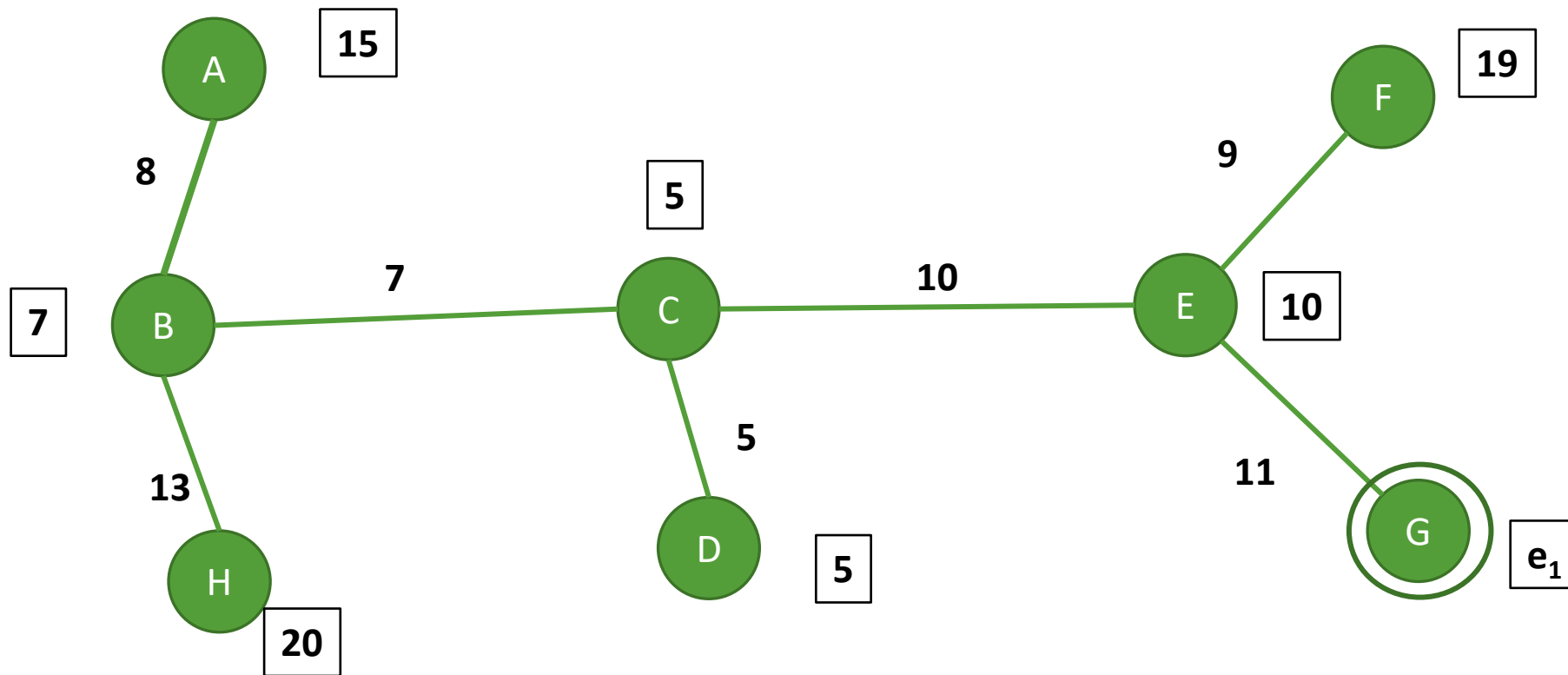
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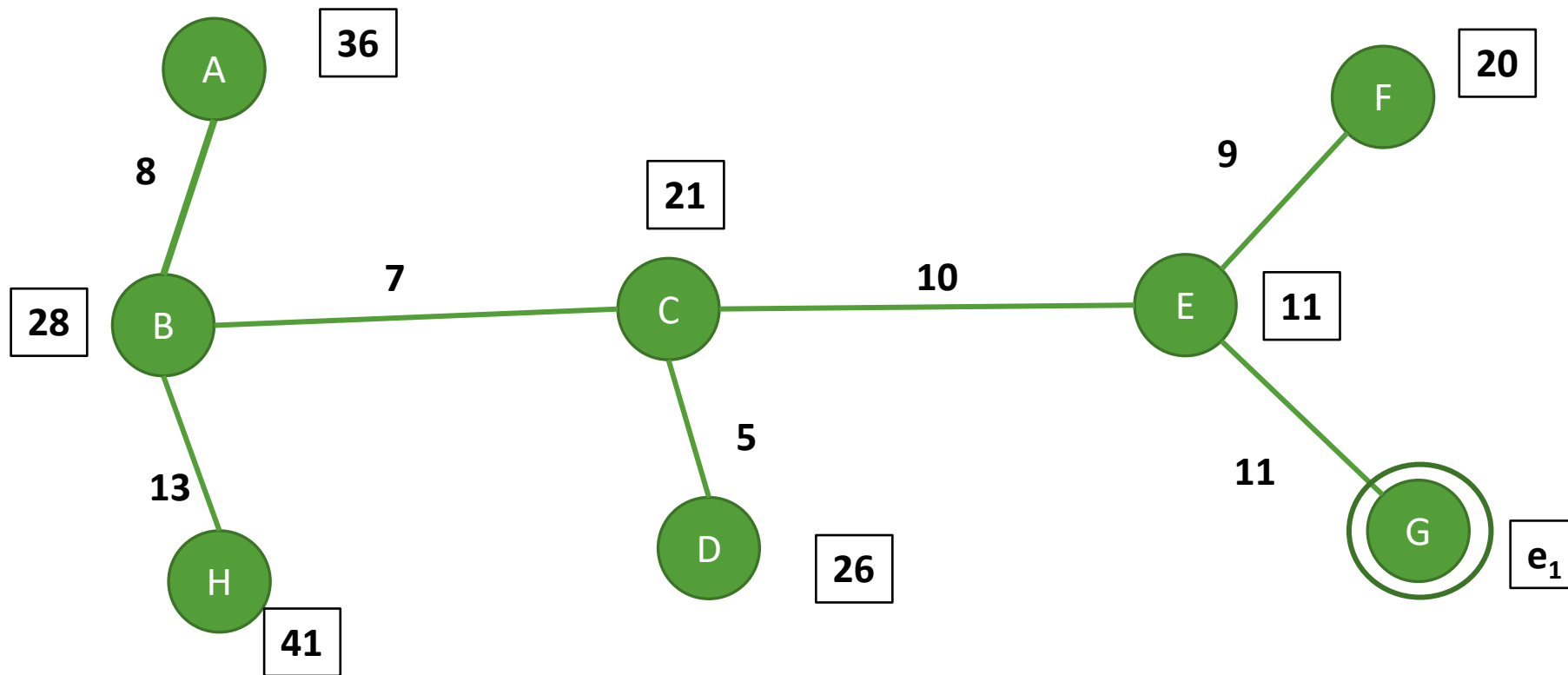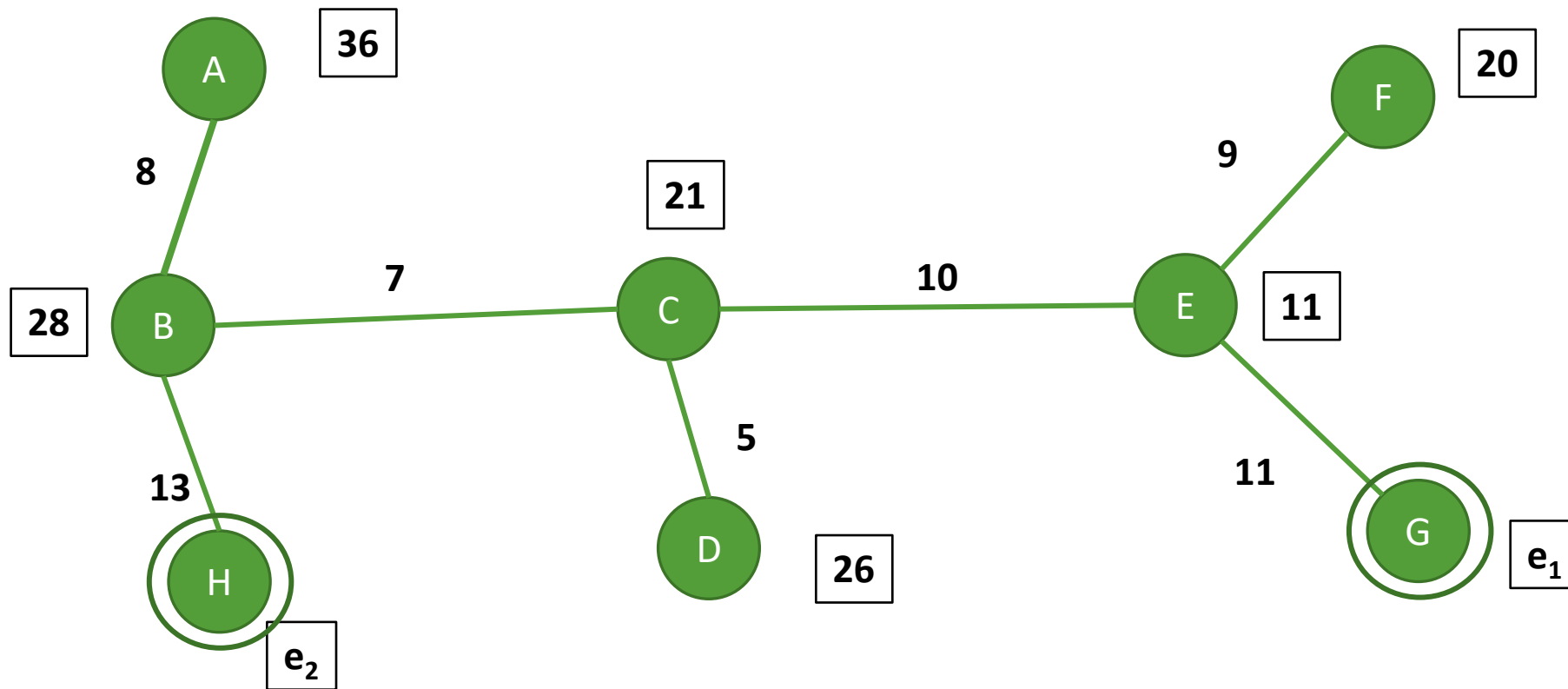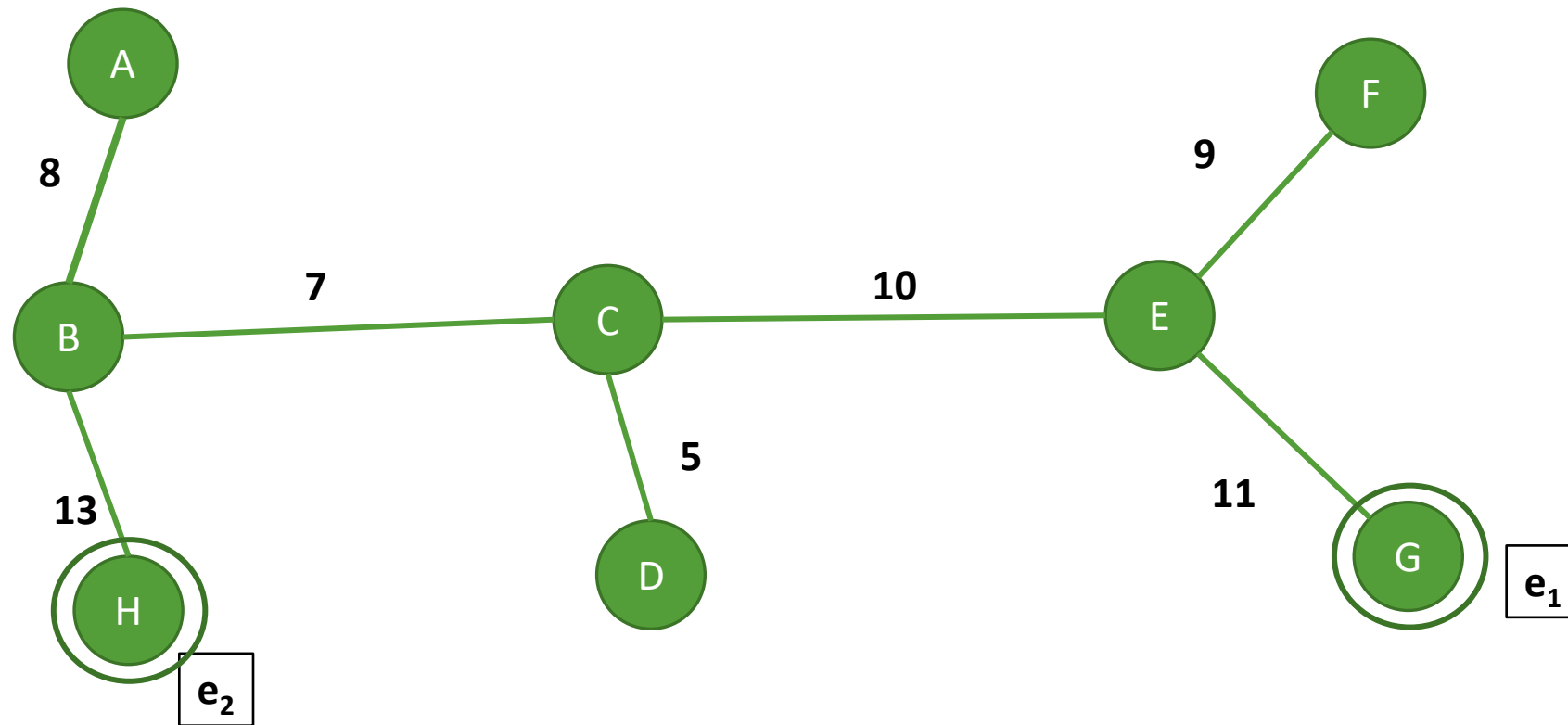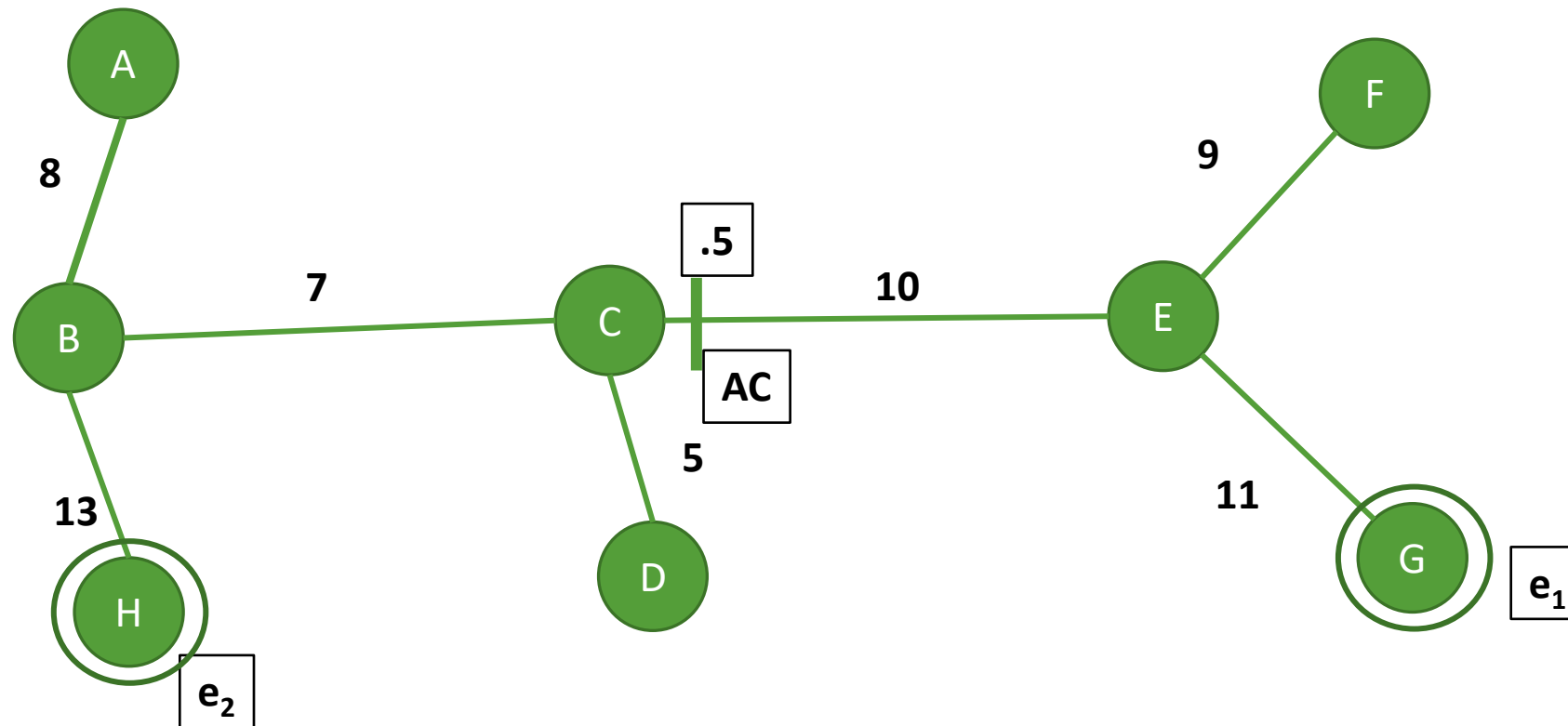# P – Center Example

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