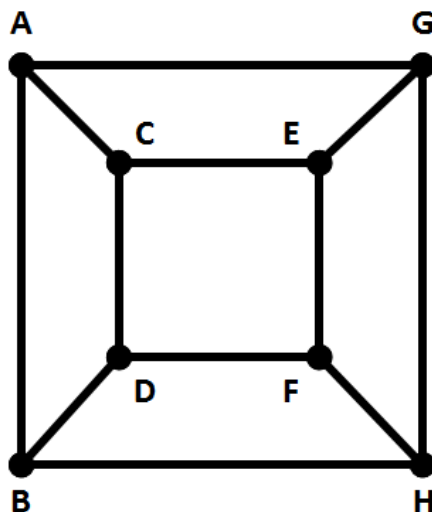
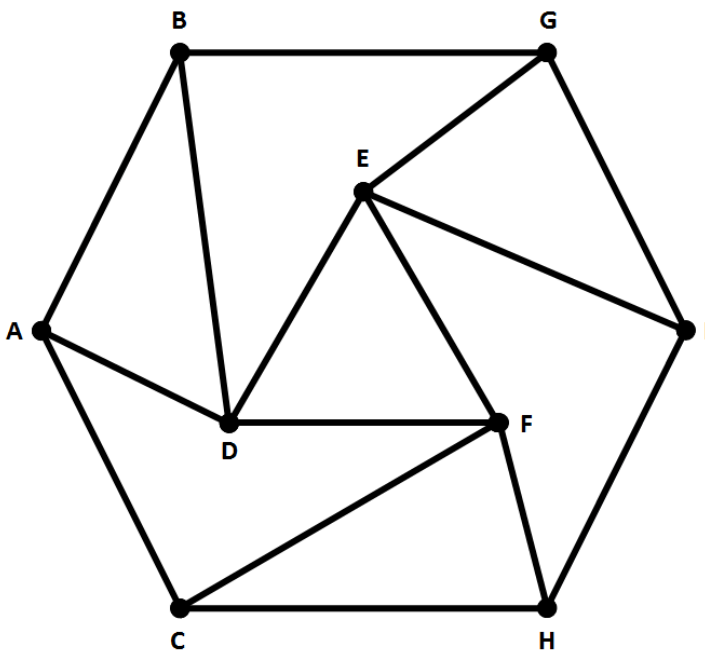


**EX 4.2.1:** Consider the following graph:



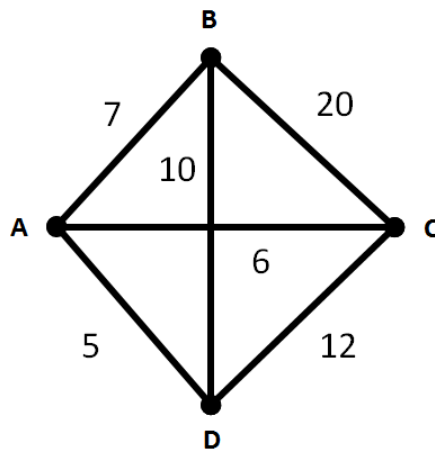
- (a) Find two Hamilton paths that begin at  $A$  and end at  $C$ .
- (b) Find two Hamilton circuits that begin at  $A$ .

**EX 4.2.2:** Consider the following graph:



- (a) Find a Hamilton path that begins at  $H$  and ends at  $D$ .
- (b) Find a Hamilton path that begins at  $H$  and ends at  $F$ .
- (c) Find a Hamilton circuit starting at  $A$ .
- (d) Find a Hamilton circuit starting at  $F$ .

**EX 4.2.3:** Consider the following weighted complete graph  $K_4$ :

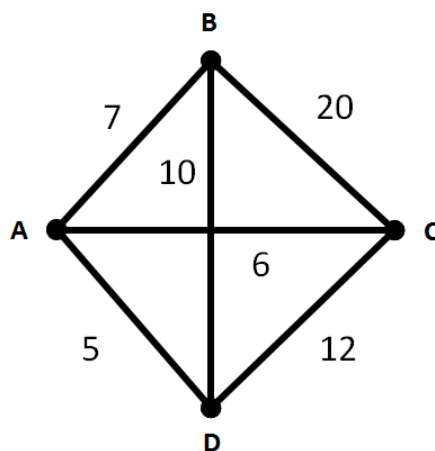


(a) Using the **Brute Force Algorithm**, starting with vertex  $A$ , find the optimal Hamilton circuit(s).

(b) What is the weight of the optimal Hamilton circuit(s) found in part (a)?

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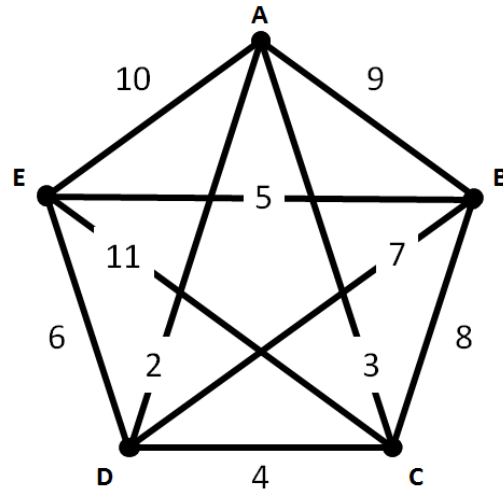
**EX 4.2.4:** Consider the following weighted complete graph  $K_4$ :



(a) Using the **Nearest Neighbor Algorithm**, starting with vertex  $A$ , find a semi-optimal Hamilton circuit.

(b) What is the weight of the semi-optimal Hamilton circuit found in part (a)?

**EX 4.2.5:** Consider the following weighted complete graph  $K_5$ :



(a) Using the **Nearest Neighbor Algorithm**, starting with vertex  $D$ , find a semi-optimal Hamilton circuit.

(b) What is the weight of the semi-optimal Hamilton circuit found in part (a)?