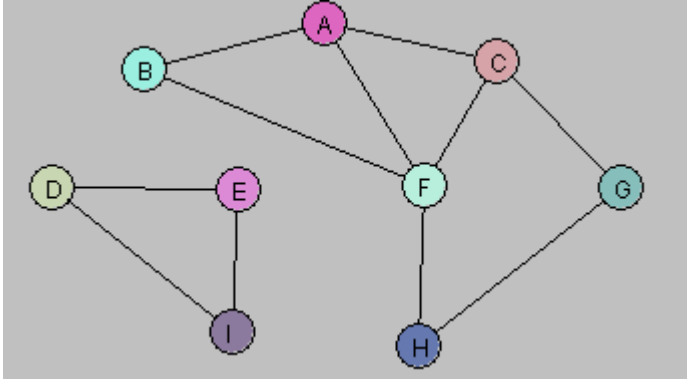
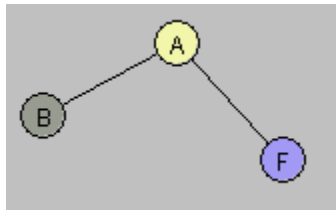


## Lab W3D3

**Question 1. Induced Graphs.** Answer questions about the graph  $G = (V, E)$  displayed below.



- A. Let  $U = \{A, B\}$ . Draw  $G[U]$ .
- B. Let  $W = \{A, C, G, F\}$ . Draw  $G[W]$ .
- C. Let  $Y = \{A, B, D, E\}$ . Draw  $G[Y]$ .
- D. Consider the following subgraph  $H$  of  $G$ :



Is there a subset  $X$  of the vertex set  $V$  so that  $H = G[X]$ ? Explain.

- E. Find a way to partition the vertex set  $V$  into two subsets  $V_1, V_2$  so that each of the induced graphs  $G[V_1]$  and  $G[V_2]$  is connected and  $G = G[V_1] \cup G[V_2]$ .

**Qusetion 2.** The following graph has a Hamiltonian cycle. Find it.

