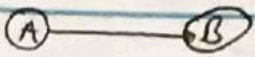
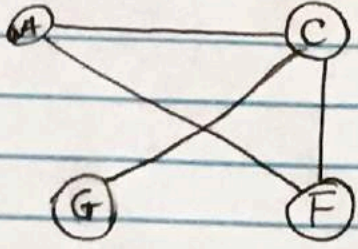


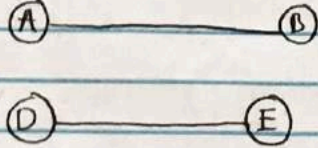
Course: Algorithm  
 Prof. Prem Nair  
 Student: Binh Van Tran  
 ID: 986648  
 Homework: Lab 12

1. Question 1 – Playing with induced graphs

Induced Graph: sub graph with all edges of <sup>sub</sup> vertices

A)  $U = \{A, B\}$ ,  $G[U]$  

B)  $W = \{A, C, G, F\}$ , Draw  $G[W]$  

C)  $Y = \{A, B, D, E\}$ , Draw  $G[Y]$  

D) No because:  
 Let say  $X = \{A, B, F\} \subset V$ ;  $X = H_V$   
 $\Rightarrow G[X] = (\{A, B, F\}, \{(A, B), (B, F), (A, F)\})$   
 while  $H = (\{A, B, F\}, \{(A, B), (A, F)\})$   
 Hence  $G[X] \neq H$ , there no subset  $X$  of  $V$  so that  $H = G[X]$

$E \rangle V_1 = \{D, E, I\} ; V_2 = \{B, A, C, F, G, H\}$   
 we have  $\begin{cases} G[V_1] \text{ and } G[V_2] \text{ is induced \& connected} \\ G = G[V_1] \cup G[V_2] \end{cases}$

2. **Question 2** – Finding Hamiltonian cycle

