Homework problem for problem set #3

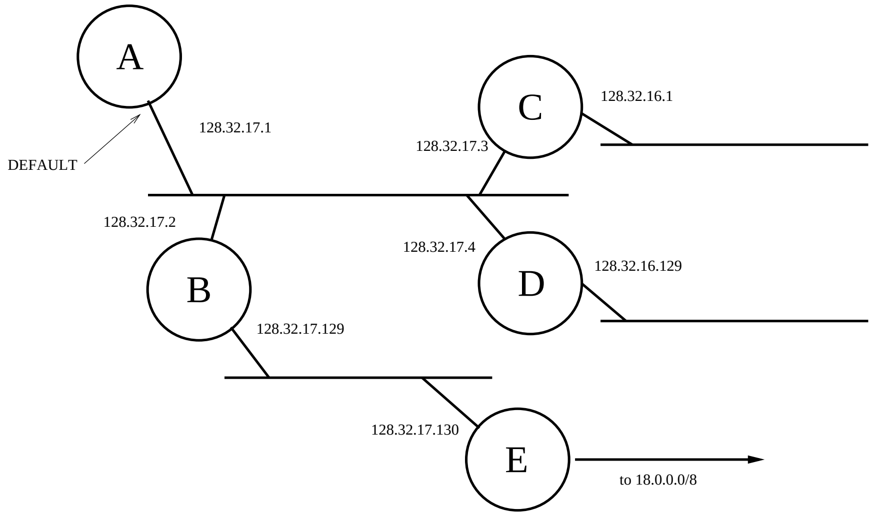

Figure 1: A Sample internet

Entry Number	Mask	Destination	Next-hop
1			
2			
3			
4			
5			
6			
7			

(a) construct a reasonable forwarding table for router B in the internetwork pictured above by filling in the forwarding table. Include entries for local delivery.

(b) draw a Patricia "trie" used to hold this table

(c) Assume a packet enters this internet though router A destined for address 18.1.2.3. Indicate the addresses used in the link and network layer source and destination addresses used on the networks joining {A,B,C,D} and {B,E}. You may assume Ethernet is used for each joining segment and fragmentation is not required. In addition, you may use the notation $M(a)$ to indicate the MAC-layer address corresponding to the IP address a. Be sure to illustrate the frame encapsulation (i.e. where the link layer header is located relative to the network layer header in a frame).