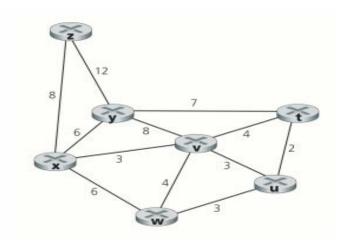# Lab 3: INTERNET PROTOCOL & ROUTING ALGORITHM

+ Take as many screen pictures as possible and insert into your answer sheet
+ Return your answer in pdf or docfile with file name likes this

> GROUP-CODE-NAME- NETWORK_LAYER
> Ex: SE0709- SE02436-Linhlm-NETWORK_LAYER

I – IP (Start up Wireshark and begin to capture, then answer the following questions)

1. What is the IP address of your computer?

2. Within the IP packet header, what is the value in the upper layer protocol field?

3. How many bytes are in the IP header? How many bytes are in the payload of the IP datagram? Explain how you determined the number of payload bytes.

4. Has this IP datagram been fragmented? Explain how you determined whether or not the datagram has been fragmented.

5. What is the value in the Identification field and the TTL field?

6. Look at the 40byte dump of an IP packet containing a TCP segment below.
45 20 03 c5 78 06 00 00 34 06 ca 1f d1 55 ad 71 c0 a8 01 7e
00 50 9a 03 3e 64 e5 58 df d0 08 b3 80 18 00 de 00 02 00 00
Identify all the fields of the IP and TCP header

II. Routing Algorithm

1. Consider the following network. With the indicated link costs, use Dijkstra's shortest-path algorithm to compute the shortest path from x to all network nodes. Show how the algorithm works by computing a table similar to to the table on slide.