

# **Computer Network**

## **Assignment1**

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Question 1:

```

[caoxiangchengdeMacBook-Pro:~ xiangchengcao$ ping 10.132.4.136
PING 10.132.4.136 (10.132.4.136): 56 data bytes
Request timeout for icmp_seq 0
Request timeout for icmp_seq 1
Request timeout for icmp_seq 2
Request timeout for icmp_seq 3
Request timeout for icmp_seq 4
64 bytes from 10.132.4.136: icmp_seq=5 ttl=124 time=6.615 ms
64 bytes from 10.132.4.136: icmp_seq=6 ttl=124 time=9.607 ms
64 bytes from 10.132.4.136: icmp_seq=7 ttl=124 time=9.974 ms
64 bytes from 10.132.4.136: icmp_seq=8 ttl=124 time=6.565 ms
64 bytes from 10.132.4.136: icmp_seq=9 ttl=124 time=63.322 ms
64 bytes from 10.132.4.136: icmp_seq=10 ttl=124 time=10.975 ms
64 bytes from 10.132.4.136: icmp_seq=11 ttl=124 time=87.564 ms
Request timeout for icmp_seq 12
Request timeout for icmp_seq 13
64 bytes from 10.132.4.136: icmp_seq=14 ttl=124 time=43.462 ms
Request timeout for icmp_seq 15
64 bytes from 10.132.4.136: icmp_seq=16 ttl=124 time=82.078 ms
64 bytes from 10.132.4.136: icmp_seq=17 ttl=124 time=17.261 ms
64 bytes from 10.132.4.136: icmp_seq=18 ttl=124 time=3.092 ms
64 bytes from 10.132.4.136: icmp_seq=19 ttl=124 time=9.621 ms
64 bytes from 10.132.4.136: icmp_seq=20 ttl=124 time=14.925 ms

```

Question 2:

```

C:\Users\DELL>tracert baidu.com

通过最多 30 个跃点跟踪
到 baidu.com [123.125.115.110] 的路由:

 1  <1 毫秒    <1 毫秒    <1 毫秒    10.132.127.254
 2  <1 毫秒    <1 毫秒    <1 毫秒    172.20.255.250
 3  *          *          *          请求超时。
 4  *          *          <1 毫秒    172.17.11.214
 5  1 ms       1 ms       1 ms       172.17.11.254
 6  1 ms       1 ms       1 ms       218.197.158.254
 7  2 ms       2 ms       2 ms       wh0.cernet.net [202.112.53.81]
 8  *          10 ms      *          101.4.114.229
 9  25 ms      25 ms      25 ms      101.4.112.29
10  24 ms      24 ms      24 ms      101.4.117.53
11  27 ms      25 ms      *          101.4.116.102
12  40 ms      40 ms      42 ms      219.158.40.133
13  42 ms      37 ms      37 ms      219.158.9.249
14  51 ms      49 ms      49 ms      219.158.103.133
15  50 ms      53 ms      53 ms      124.65.194.14
16  50 ms      50 ms      52 ms      124.65.60.246
17  50 ms      51 ms      50 ms      123.125.248.110
18  *          *          *          请求超时。
19  *          *          *          请求超时。
20  50 ms      50 ms      50 ms      123.125.115.110

跟踪完成。

C:\Users\DELL>

```

Question 3:

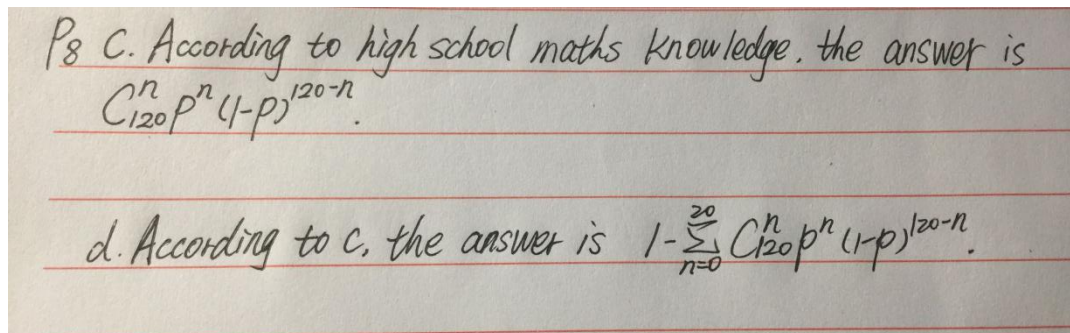
**1.Q8:**

- a.  $3 \text{ Mbps} / 150 \text{ Kbps} = 20$

So when the circuit switching is used, 20 users can be supported.

- b. The possibility  $p$  that a given user is transmitting is 10 percent.

c&d.



**2.Q7:**

$$56 \times 8 / (64 \times 1000) \text{ sec} + 56 \times 8 / (2 \times 1000000) \text{ sec} + 10 \text{ msec} = 17.224 \text{ msec}$$

**3.Q6:**

- a.  $d_{\text{drop}} = m/s \text{ sec}$
- b.  $d_{\text{trans}} = L/R \text{ sec}$
- c.  $d_{\text{end-to-end}} = d_{\text{drop}} + d_{\text{trans}}$
- d. The bit should just leave Host A
- e. The bit is in the transmission and has not reached Host B
- f. The bit reached Host B
- g.  $m = (L \times s) / R = 536 \text{ km}$