**网络及分布式计算**

1. Ping system.whu.edu.cn

**正在 Ping system.whu.edu.cn [10.10.14.14] 具有 32 字节的数据:**

**来自 10.10.14.14 的回复: 字节=32 时间=1ms TTL=254**

**来自 10.10.14.14 的回复: 字节=32 时间=2ms TTL=254**

**来自 10.10.14.14 的回复: 字节=32 时间<1ms TTL=254**

**来自 10.10.14.14 的回复: 字节=32 时间<1ms TTL=254**

**10.10.14.14 的 Ping 统计信息:**

**数据包: 已发送 = 4，已接收 = 4，丢失 = 0 (0% 丢失)，**

**往返行程的估计时间(以毫秒为单位):**

**最短 = 0ms，最长 = 2ms，平均 = 0ms**

1. Tracert system.whu.edu.cn

**通过最多 30 个跃点跟踪**

**到 system.whu.edu.cn [10.10.14.14] 的路由:**

**1 \* \* \* 请求超时。**

**2 <1 毫秒 <1 毫秒 <1 毫秒 172.20.255.250**

**3 \* 1 ms 1 ms 172.20.255.254**

**4 \* \* \* 请求超时。**

**5 1 ms <1 毫秒 1 ms 10.10.14.14**

**跟踪完成。**

说明：

**172.20.255.250** 本地局域网

**172.20.255.254** 本地局域网

**10.10.14.14** 本地局域网

1. 习题P4、P5、P8

**P4:**

a.16

There are four links and each link has four circuits. As we know that a connection need one circuit at least to support. And we choose the adjacent switches to build connection and then, there are 16 connections existing.

b.8

We can choose the routes as A-B-C and A-D-C to finish the connection. And each route which need two links link has 4 circuits to use. So, we get 8 connections at most.

c.Yes

We choose A-D-C and A-B-C as the routes to build connections between A and C. Both of two routes take place 2 circuits in each link.So, we get 4 connections between A and C. And then, there are 2 circuits rest in each link. Use the same way, we take B-A-D and B-C-D to finish the four connections.

**P5:**

a.Time is 150km/(100km/h)+10\*12s\*3 = 96min

b.Time is 150km/(100km/h)+8\*12s\*3 = 94min & 48sec

**P8:**

a.3Mpbs/150Kbps=20

So, there are 20 users existing at most.

c.We set **p=0.1**, the formula is:



d.Use the formula as above, we get the possibility is:



But the calculation is very hard. We can use De Moivre-Laplace limit theorem to get the approximate solution:



So, we get the answer is:



The possibility of the number of persons is more than 21 or equal to 21 is 0.0031