

第 1 次作业

晓芬红 2020031415

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1. 毛泽东思想活的灵魂的三个基本方面是什么？

答：

- (1) 实事求是
- (2) 群众路线
- (3) 独立自主

3. Which of the OSI layers and TCP/IP layers handles each of the following:

1) Dividing the transmitted bit stream into frames

2) Determining which route through the subnet to use.

答：

-	把传输的比特流分成帧	确定使用哪条路由来通过子网
OSI	数据链路层	网络层
TCP/IP	链路层	互联网层

\*10. As a simplistic example, suppose that time is divided into discrete slots, with each of the  $n$  hosts attempting to use the channel with probability  $p$  during each slot. What fraction of the slots will be wasted due to collisions?

答：设冲突概率为  $P_{collisions}$ ，空闲概率为  $P_0$ ，一台主机使用的概率为  $P_1$ ，则

$$P_0 = \binom{N}{0} \times p^0 \times (1-p)^n = (1-p)^n$$

$$P_1 = \binom{N}{1} \times p^1 \times (1-p)^{n-1} = n \times p \times (1-p)^{n-1}$$

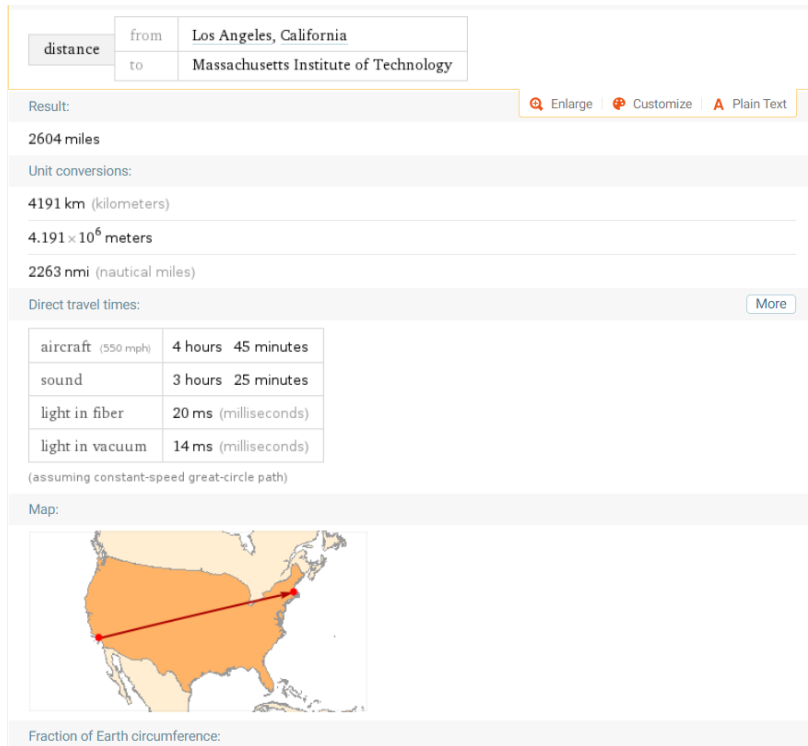
而冲突时间比例即为冲突概率，即为：

$$P_{collisions} = 1 - P_0 - P_1 = 1 - (1-p)^n - n \times p \times (1-p)^{n-1}$$

**35. . Try using ping to see how long it takes to get from your location to several known locations.**

答： LOL, good question.

Ping mit.edu and then use Wolframalpha find the distance between LA and MIT:



and ...