Homework 7

1. Suppose a judgement is of the form:

   $$Alice \textit{ says } S \wedge Bob \textit{ says } S \vdash Bob \textit{ says } S \wedge Alice \textit{ says } S$$

   Assume you want to use the inference rule

   $$\frac{\Gamma \vdash F_1 \quad \Gamma \vdash F_2}{\Gamma \vdash F_1 \wedge F_2}$$

   for constructing a proof of the judgement. What do the premises look like?

2. The informal meaning of the formula $P \mapsto Q$ is 'P speaks for Q'. Give a definition for this formula in terms of *says*.

3. In Unix, what should be the general architecture of a network application that processes potentially hostile data from the Internet? (Hint: Focus on the fact that in Unix you can give different privileges to processes.)

4. Explain what are the differences between dictionary and brute forcing attacks against passwords.