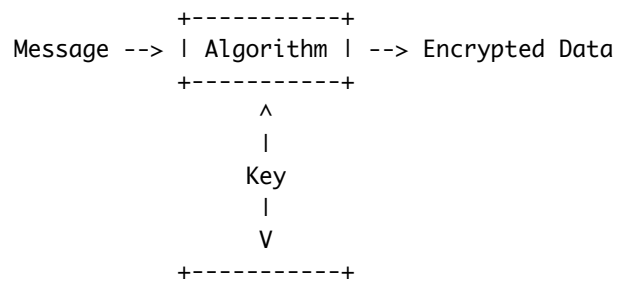
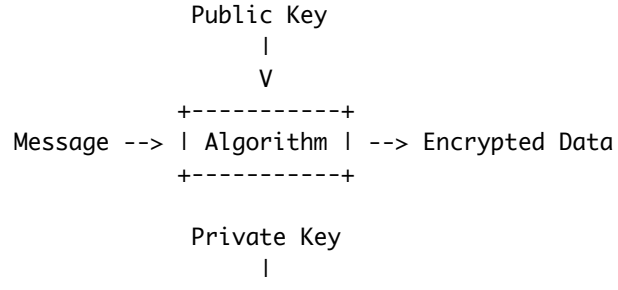
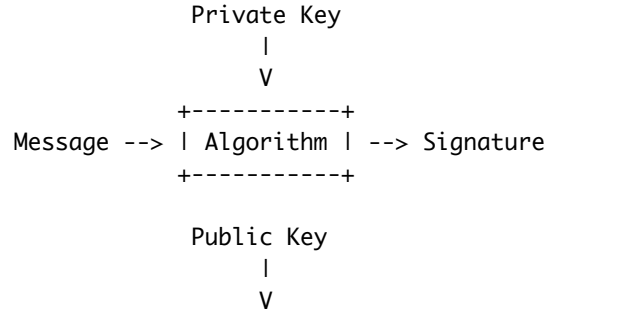
CS 35L Software Construction Laboratory (Lab8-A)
Wed, Feb 22, 2012, Ver 1.2

Cryptography
  -- Symmetric-key cryptography



  -- Public-key cryptography (a.k.a. Asymmetric-key cryptography)





  more reading:
  http://en.wikipedia.org/wiki/Cryptography
  http://en.wikipedia.org/wiki/Public-key_cryptography

Telnet vs SSH

```
  Telnet:
            Sending Unencrypted Data
   Client ------------------------------> Server
            Username / Password

  SSH:
            Sending Encrypted Data
   Client ------------------------------> Server
            cx73@?1= / jJp12;Yt
```

Getting Started with SSH

```
  -- install openssh if you do not have it
    sudo apt-get install openssh-server

  -- generate SSH key pairs (client side)
    ssh-keygen -t rsa
    Get two files:
      .ssh/id_rsa     (private key)
      .ssh/id_rsa.pub (public key)

  -- authorizing access (server side)
  .ssh/authorized_keys
    This file stores authorized pubkeys from client machines. Append other's
  pubkey to this file can authorize access without typing passwords.

  -- other ssh cammands (check manpage for more information)
  Remote host shell access
    ssh login@remote
  Execute a single command on a remote host
    ssh login@remote 'command'
  Secure Copy
    scp login@remote:/remote/path/to/file /local/path/to/file
  Port Forwarding
    ssh -L [bind_address:]port:host:hostport
  Enables X11 forwarding
    ssh -X login@remotehost

  more reading: http://kimmo.suominen.com/docs/ssh/
```