03Framework.1

April 20, 2018

```
In [10]: function [res] = NN(data)
           tic
           n = size(data)(1); m = size(data)(2);
           res = zeros(1,n);
           for i = 1:n
             dist = sum(((data - data(i,:)).*(data - data(i,:)))');
             dist(i) = realmax;
             [mini, res(i)] = min(dist);
           end
           toc
         end

In [11]: x = rand(5000, 10);

In [12]: tic
         res1 = NN(x)
         toc

Elapsed time is 3.28171 seconds.
res1 =

 Columns 1 through 11:

   4566   2526   1862   1366   3082   4625   1791   2433   3549   1687   4092

 Columns 12 through 22:

   3089   3688   2906   1708   2248   4976   2211   4509   3580   4897   4638


Elapsed time is 4.04794 seconds.


In [17]: addpath /home/lanfangzhou/Downloads/Softwares/vlfeat-0.9.21/toolbox

In [16]: pkg list

Package Name  | Version | Installation directory
--------------+---------+----------------------
```

```
      control  |    3.0.0 | /usr/share/octave/packages/control-3.0.0
      general  |    2.0.0 | /usr/share/octave/packages/general-2.0.0
        image *|    2.6.1 | /usr/share/octave/packages/image-2.6.1


In [18]: vl_setup

In [30]: vl_version verbose

error: invalid use of script /home/lanfangzhou/Downloads/Softwares/vlfeat-0.9.21/toolbox/misc/vl
```

Since we cannot get octave with version 3.x to install now because of lots of problems, and octave4 is not compatible with vlfeat, the following tasks are impractical for me.