Index start from 1

1. Basic operation

A = [1 2; 3 4; 5 6] or A = [1,2; 3,4; 5,6]

ones(2,3) zeros(2,3) eye(3)

rand(3,3) randn(1,3) -> Gaussian distribution (w = -6+sqrt(10)+randn(1,1000))

size(A) -> return a 1\*2 matrix size(A,1) -> no. of rows length(v)

1. Moving data

pwd: current path cd ’C:\Users\yunhao\Desktop’ -> change current path

addpath(’C:\Users\yunhao\Desktop’) -> add to search path

load(‘featuresX.dat’) who/whos -> view variables in current workspace

v = priceY(1:10)

save new.mat v -> save v to binary file save new.txt v –ascii -> save v to ascii file(readable)

Query data: A(3,2) A(2,:) A([1 3],:)

Assign value: A(2,:) = [7;8;9]

A(:) -> put all elements into vector

1. Computing

A.\*B: multiply each element of A by corresponding element in B

A.^2: element wise squaring 1./A: element wise reciprocal

v+ones(length(v),1) :add one to each element

A’: transpose pinv(A): pseudo inverse

[val,ind] = max(a) -> maximum and index of vector

max(A,[],1) -> column maximum max(A,[],2) -> row maximum

find(a<3) -> return index find(A<3) -> return row and column index

sum(A,1) -> column sum sum(A,2) -> row sum prod(a)

1. Plot

plot(t,y1); hold on; plot(t,y2,’r’); xlabel(‘time’); ylabel(‘value’); legend(‘sin’,’cos’); title(‘my plot’)

print –dpng ‘myPlot.png’ -> save plot

subplot(1,2,1); plot(t,y1); subplot(1,2,2); plot(t,y2); -> divide plot into 1\*2 grid

axis([0.5 1 -1 1]) -> set x and y range

colorbar

hist(w) -> histogram