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Assignment 4

Zagrodzki; CSCI 1320-112

Assignment 4 – New Matricies

**Task 1) MakeMat**

function m = makemat(x,y)

%Set Size

a = size(x);

b = size(y);

%Check Matrix

if ~(a(1) == 1 || a(2) == 1)

error('Please input a VECTOR')

end

if ~(b(1) == 1 || b(2) == 1)

error('Please input a VECTOR')

end

%Transpose

if(a(1)~=1)

x = x';

a = size(a);

end

if(b(1)~=1)

y = y';

b = size(b);

end

%Match Lengths

if a(2) > b(2)

%Make y Longer

z = a(2)-b(2);

z = zeros(1,z)

y = [y,z];

elseif b(2) > a(2)

%Make x Longer

z = b(2)-a(2);

z = zeros(1,z)

x = [x,z];

end

%RETURN

m = [x',y'];

end

**Task 2) Smallest**

function s = smallest(v)

%Locate Zeros

z = find(v==0);

%Pre-Allocate space

b = zeros(1,length(z));

%Iterate through the different zero valuess

for i = 1:length(z)

if z(i)== 1

%if zero comes first

b(i) = [];

else

%All other times

b(i) = v(z(i)-1);

end

end

%Return

s = min(b);

end

**Task 3)**

%Noisify

%Clean Up

clear all

close all

clc

%Constants

x = 1:20;

y = x.^.5;

%SQRT X

plot(x,y,'b')

hold on

%NOisE

n = (rand(1,20)-0.5)/10;

y2 = y + n;

plot(x,y2,'r.')

%Labels

xlabel('x')

ylabel('y')

title('x vs y and x vs y + noise')

legend('y original','y + noise')