**Assignment 5 Code**

**Solutuion.m**

*load('elevation.mat')*

*figure(1)*

*imagesc(map), axis equal, colormap gray*

*title('height map')*

**findLowNhbr.m**

function [ roffset, coffset ] = findLowNhbr( map )

[r,c] = size(map)

roffset = zeros(r,c);

coffset = zeros(r,c);

for i = 1:r

for j = 1:c

if i == 1 | i == r | j == 1 | j == c

roffset(i,j) = 0;

coffset(i,j) = 0;

else

sub = map( i-1:i+1, j-1:j+1 );

min\_c = min(sub);

%minimum within colums ^

min\_c\_trns = transpose(min\_c);

%transpose it ^

min\_tot = min(min\_c\_trns);

%Finding total minimum ^

[min\_pos\_r, min\_pos\_c] = find(sub == min\_tot);

%Finding the position of the total minimum ^

roffset(i,j) = min\_pos\_r - 2;

coffset(i,j) = min\_pos\_c - 2;

end

end

end

end

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[roffset, coffset] = findLowNhbr( map );

n = 0;

coords = [col, row];

while ~ (roffset(row,col) == 0 && coffset(row,col) == 0 && n < 1000);

if (