```
function [X,Y,grid_pt,bound_pt]=line_grid(numcellX,numcellY,mapstore)
boundaryX =[-2,2];
boundaryY =[-1,1];
len = length(mapstore);
grid_pt = cell(2,16);
idx = 1;
num_div = max(numcellX,numcellY);
for i=1:len
    for j=1:4
        now = j;
        next = j+1;
        if(j+1 >4)
            next=1;
        end
        %%%%calculate the line points
        if(mapstore{i}(now,1)==mapstore{i}(next,1))
            x_pt = mapstore{i}(now,1)*ones(1,num_div);
            y_pt = linspace(mapstore{i}(now,2),mapstore{i}
(next,2),num_div);
        elseif(mapstore{i}(now,2)==mapstore{i}(next,2))
            y_pt = mapstore{i}(now,2)*ones(1,num_div);
            x_pt = linspace(mapstore{i}(now,1),mapstore{i}
(next,1),num_div);
        else
            x_pt = linspace(mapstore{i}(now,1),mapstore{i}
(next,1),num_div);
            y_pt = linspace(mapstore{i}(now,2),mapstore{i}
(next,2),num_div);
        end
            grid_pt{1,idx}=x_pt;
            grid_pt{2,idx}=y_pt;
            idx = idx + 1;
    end
end
%%grid points
grid_x = linspace(boundaryX(1),boundaryX(2),numcellX+1);
grid_y = linspace(boundaryY(1),boundaryY(2),numcellY+1);
[X,Y] = meshgrid(grid_x,grid_y);
%%find the index of the grid
X_rol=X(1,:);
Y_col=Y(:,1)';
bound_pt=zeros(numcellY,numcellX);
num_b = length(grid_pt);
for k=1:num_b
    for j=1:num_div
        for i=1:numcellX
            if(grid_pt{1,k}(j) >= X_rol(i) && grid_pt{1,k}(j) <=
 X_rol(i+1))
                idx_x = i;
            end
        end
        for i=1:numcellY
```

```
            if(grid_pt{2,k}(j) >= Y_col(i) && grid_pt{2,k}(j) <=
 Y_col(i+1))
                idx_y = i;
            end
        end
        bound_pt(idx_y,idx_x) = bound_pt(idx_y,idx_x)+1;
    end
end

for i=1:numcellX*numcellY
   if(bound_pt(i) >0)
       bound_pt(i) = 1;
   end
end
bound_pt = flip(bound_pt, 1);
end
```

```
Not enough input arguments.

Error in line_grid (line 4)
len = length(mapstore);
```

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