

```
function [avg_matrix] = calc_avg_color_vect(final_indexes, img_matrix, N)

im_rows = size(img_matrix,1);
im_cols = size(img_matrix,2);

num_rows = floor(im_rows / N);
num_cols = floor(im_cols / N);

num_partition_rows = N; %the number of resultant partition rows
num_partition_cols = N; %the number of resultant partition cols

pixels_per_cell = num_rows*num_cols;

num_pixels = size(final_indexes,1); %total number of pixels in the partitioned image
num_partition_cells = num_pixels / pixels_per_cell;

pixel_entries = img_matrix(final_indexes);
avg_matrix = reshape(pixel_entries, [1 pixels_per_cell num_partition_cells]);

avg_matrix = mean(avg_matrix);
avg_matrix = reshape(avg_matrix,[num_partition_rows num_partition_cols]);

endfunction
```