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function distance_matrix = find_most_distant_pair(data_array)
    %takes an array of vectors, and returns a matrix containing the Euclidean distance
    between each pair of vectors

    [x num_vectors] = size(data_array);

    distance_matrix = zeros(num_vectors,num_vectors);

    max_distance = 0;

    for i = 1 : num_vectors

        for j = i : num_vectors

            x = data_array{i};
            y = data_array{j};
            temp = norm(x - y);
            distance_matrix(i,j) = temp;

        endfor

    endfor

endfunction
```