

homework4/gram_schmidt.m

```
1  % gram_schmidt.m
2  % Copyright (C) 2024 Noam Schuck <noam.schuck@gmail.com>
3
4  function x = gram_schmidt(mat, norm, ip)
5      [row, col] = size(mat);
6      x = zeros(row, col);
7
8      for i = 1:col
9          if i == 1
10             x(:, i) = mat(:, i) / norm(mat(:, i));
11             continue
12          end
13
14          v = mat(:, i);
15
16          for j = 1:(i - 1)
17             v = v - ip(v, x(:, j)) * x(:, j);
18          end
19
20          x(:, i) = v / norm(v);
21      end
22
23  end
```