

- 1) (2 pts) Write a single MATLAB command that will compute the binomial coefficient

$$C(n, k) = \binom{n}{k} = \frac{n!}{k!(n-k)!}, \quad n \geq k$$

for some given values of n and k .

- 2) (2 pts) Write a single MATLAB command that will perform the calculation from Problem 2 of HW 13.
- 3) (3 pts) Write a single MATLAB command that will compute the geometric mean of the elements of a vector x (see Problem 1 of HW 9).
- 4) (5 pts) Write a script that will compute the slope and y -intercept of the best fit line of a table of points. Assume the points are stored in vectors x and y . The formulas for these are given by

$$m = \frac{\sum_{i=1}^n (x_i - x_{\text{mean}}) \cdot (y_i - y_{\text{mean}})}{\sum_{i=1}^n (x_i - x_{\text{mean}})^2}$$
$$b = y_{\text{mean}} - m \cdot x_{\text{mean}}.$$

You should only need 4 lines to do this. Don't use the built-in `mean` function.