1. Consider the following "dataset" with a single feature x, and corresponding true label values y are shown in the table below [16]

|  |  |
| --- | --- |
| x | y |
| 1 | 4 |
| 3 | 5 |
| 5 | 7 |
| 8 | 11 |
| 10 | 14 |
| 12 | 18 |

1. Plot the data of y against x in a scatterplot [2]
2. Find the updated value of m and c up to the 2nd iteration. [ Assume the avg line and its corresponding m and c as the first iteration value. Assume that the learning rate = 0.01. Use MSE as your cost function here] [8]
3. Find the final predicted value y\_hat for this dataset after 2nd iteration [3]
4. Compute the RMSE between the final predicted values obtained in (b) and true label values, showing all work. [3]