

MITx 6.86x

Machine Learning with Python-From Linear Models to Deep Learning

Discussion Course **Progress** <u>Dates</u> **Resources**

Course / Unit 0. Brief Prerequisite Reviews, Homework 0, and Project 0 / Homework 1

< Previous 2 of 15 v

2. Sums and Products

☐ Bookmark this page

Homework0 due Feb 8, 2023 08:59 -03 Completed

Summation Notation

4/4 points (graded)

Compute the following sums.

(Enter closed-form expressions, without summation notation, in terms of the variables Refer to the "Standard Notation" button for help with input.)

1.
$$\sum_{i=0}^{N} 1 = \begin{bmatrix} N+1 \\ N+1 \end{bmatrix}$$

2. $\sum_{k=1}^{K} \sum_{t=1}^{T} 1 = \begin{bmatrix} K*T \\ K \cdot T \end{bmatrix}$

3. $\sum_{k=1}^{K} \sum_{t=1}^{T} 0.5^{k} = \begin{bmatrix} T - 2^{-(-K)*T} \\ T - 2^{-K} \cdot T \end{bmatrix}$

4. $\sum_{k=1}^{\infty} \sum_{t=1}^{T} 0.5^{k} = \begin{bmatrix} T \\ T \end{bmatrix}$

Hint: If you are unfamiliar, look up arithmetic and geometric series.

? STANDARD NOTATION

Submit

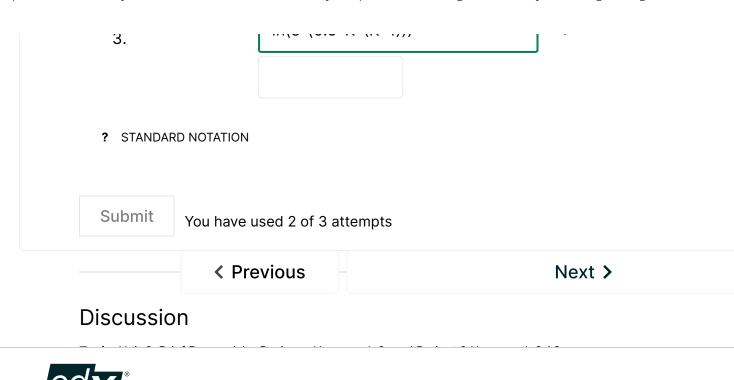
You have used 2 of 3 attempts

Product Notation

2.0/2.0 points (graded)

The notation $\prod_{i=1}^N p_i$ denotes the product with N factors:

$$\prod^N n_i = n_1 n_2 \cdots n_N$$





edX

About

Affiliates

edX for Business

Open edX

Careers

News

Legal

Terms of Service & Honor Code

Privacy Policy

Accessibility Policy

Trademark Policy

<u>Sitemap</u>

Cookie Policy

Do Not Sell My Personal Information

Connect

Blog

Contact Us

Help Center

Security