



Topic Challenge - Module 4A - Functions

Instructions

Write a function that calculates the standard deviation when given a list of numbers as an argument: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Feel free to use the average function from the class presentation.

$$s = \sqrt{\frac{\sum_{i=1}^N (x_i - \bar{x})^2}{N - 1}}$$

Once you have your standard deviation function working, it's time to deploy it to the world. Create an Amazon AWS account, as per the demonstration in class. Create a new AWS IAM user with full permissions for Lambda, and make sure you save the credentials for use later. Work through this tutorial for reference: <https://aws.amazon.com/getting-started/hands-on/run-serverless-code/>

Create a new AWS Lambda function using your standard deviation code. The input should be a dictionary in this format:

```
{"nums": [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]}
```

Test your function in the AWS Lambda console first, to make sure it works, before proceeding.

Note the name of your lambda function, as you'll need that in your client test code. Modify the client test code provided, to call your AWS Lambda function from your computer and display the result in the terminal. Note the documentation in the client test code, which explains setup details.

Submissions