

recently sampled returns when estimating the action-values and gradually forgets about returns in the distant past.

The analogous pseudocode (for taking a *forgetful* mean of a sequence (x_1, x_2, \dots, x_n)) can be found below.

```

 $\mu \leftarrow 0$ 
 $k \leftarrow 0$ 
While  $k < n$ 
     $k \leftarrow k + 1$ 
     $\mu \leftarrow \mu + \alpha(x_k - \mu)$ 

```

This change has been implemented in the `forgetful_mean` function below. The function accepts a list of numbers `x` and the step size `alpha` as input. It returns a list `mean_values`, where `mean_values[i]` is the $(i+1)$ -st estimated state-action value.

The `print_results` function analyzes the difference between the `running_mean` and `forgetful_mean` functions. It passes the same value for `x` to both functions and tests multiple values for `alpha` in the `forgetful_mean` function.

Take the time to become familiar with the code below. Then, click on the [**Test Run**] button to execute the `print_results` function. Feel free to change the values for `x` and `alpha_values`, if you would like to run more tests to further develop your intuition.

This programming quiz is no longer available

This programming quiz is unavailable because the Nanodegree program has come to an end, however your code and all the files can still be downloaded.

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Setting the Value of α

Remember that the `forgetful_mean` function is closely related to the **Evaluation** step