**Task 1: Simulating SDE**

1. **Simulating Geometric Brownian Motion**

Calculate the expectation value of S(3)

The last column of the matrix is S(3), since 0 < t < 3, by using the build in function numpy.mean, the expectation value can be easily find.

Calculate the variance of S(3)

The variance can also be easily find by using another build in function numpy.var.

Calculate P[S(3)> 39]