

# Lab - 11

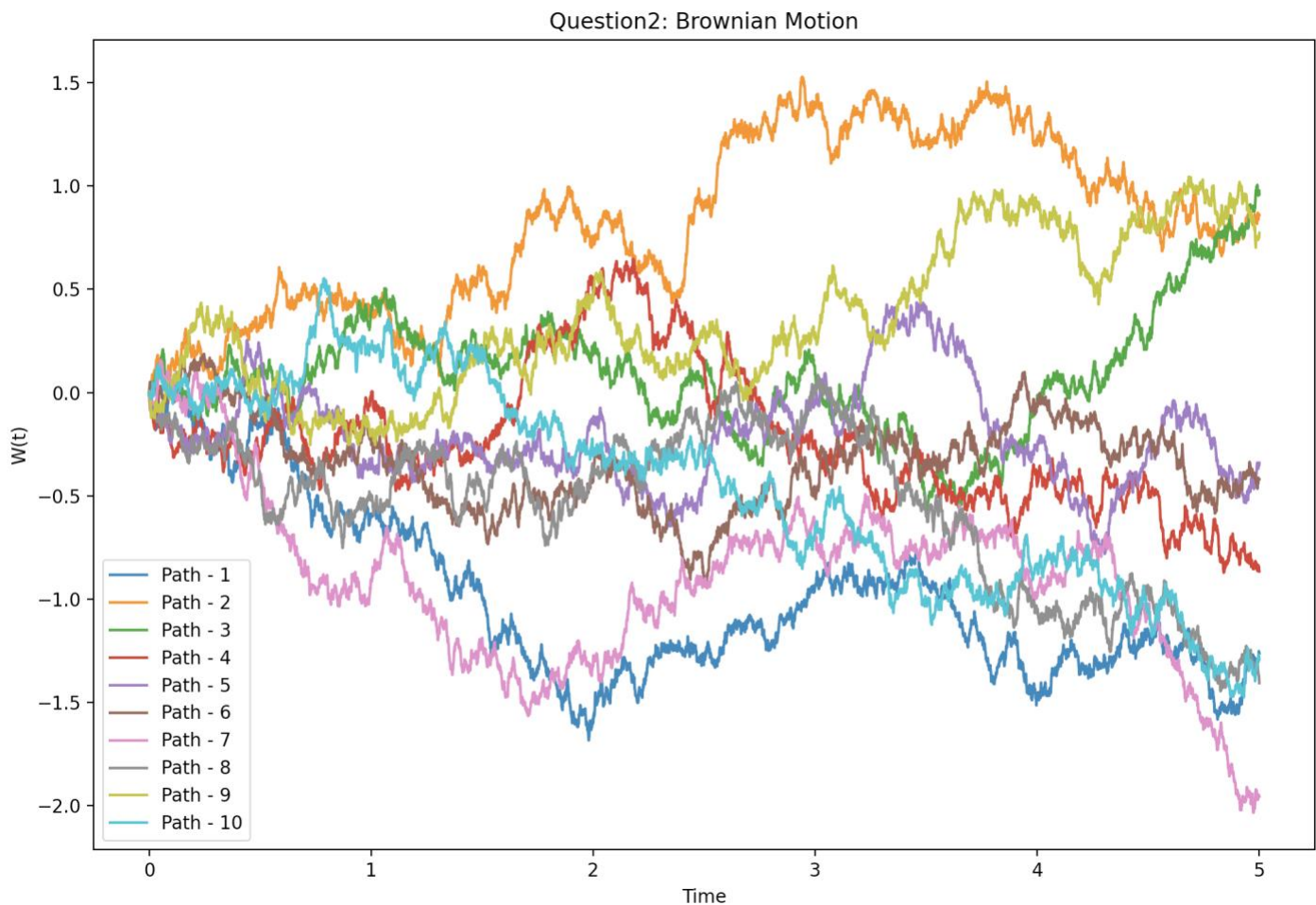
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1) The average of the generated random numbers of the Gaussian mixture PDF is

-0.3056719180767235

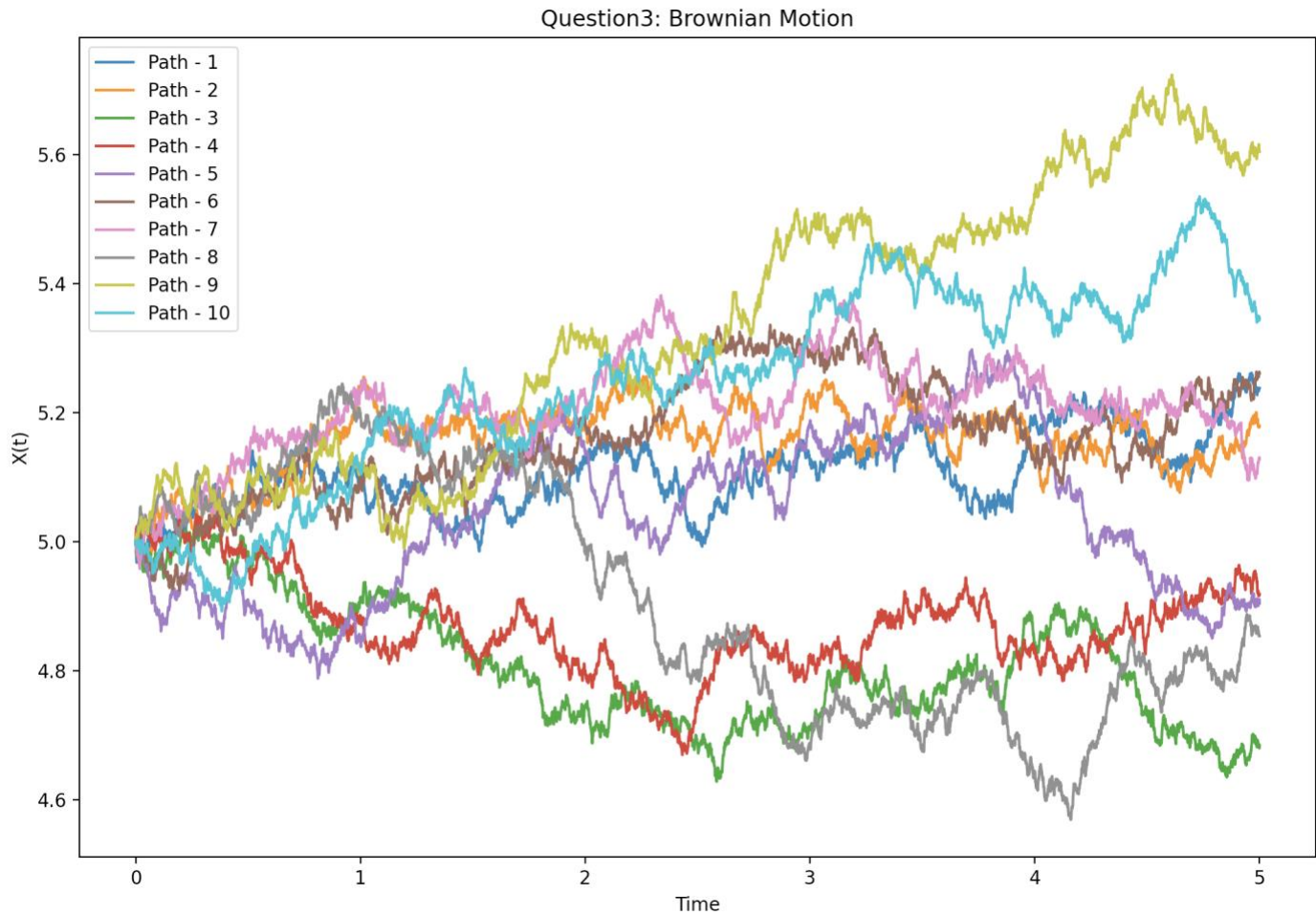
2) 10 sample paths for the standard Brownian Motion in the time interval  $[0, 5]$  using recursion formula.



$E[W(2)] : -0.2322911253882788$

$E[W(5)] : -0.49447758530740094$

3) 10 sample paths for the Brownian Motion ( $BM(\mu, \sigma^2)$ ) discretization in the time interval  $[0, 5]$  with  $X(0) = 5$ ,  $\mu = 0.06$  and  $\sigma = 0.3$ .



$E[W(2)] : 5.08965435585398$

$E[W(5)] : 5.111662509892258$