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1 #####
2 ###Code for figure 2.1
3 ###Generating m paths of a standard Wiener process on the time intervall [0,T]
4 ###SamplingWienerProcess.py
5 ###Python 2.7
6 #####
7 import numpy as np
8 import numpy.matlib
9 import matplotlib.pyplot as plt
10 from NumericalSDE import *
11
12 #Parameters for the discretization
13 n = 2**8
14 #Time discreditized [0,T] in total n+1 elements (including starting value 0)
15 t = timegrid(n)
16 #m discretized Wiener processes
17 m = 10
18 w = np.zeros((n+1,m))
19 for k in range(0,m):
20     w[:,k] = wiener(n)
21
22 #Plot the Wiener Processes
23 for sample_path in w.T:
24     plt.plot(t, sample_path, 'b', linewidth=0.5)
25 plt.xlabel('t', fontsize=16)
26 plt.ylabel('x', fontsize=16)
27 plt.show()
28

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