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#Copyright (C) 2021, Sydney Nwakanma
#April 15th, 2021
# Description: Hello world Python program that will generate white noise
              #  and gaussian samplings with plots
#Inputs: input from the keyboard
#Outputs: displays ASCII text to stdout
#Assumptions: written/tested with Python 3.9.1 on Windows
#Dependencies: Python plots and NumPy modules

import       as
import
import                   as
from          import          as

#Generate a function for White noise, returning a NumPy array to the caller.
def make_white_noise

    return

#Generate a function for Gaussian noise, returning a NumPy array to the caller.
def make_gaussian_noise

    return



#start of main

def main

#print out name and date using print()
   print "Sydney Nwakanma"

   print

#hard coded values
              1001 #number of white noise samplings to produce
              0 #minimum value for white noise
              1 #maximum value for white noise
        0 5 #mean for gaussian noise
           0 125 #standard deviation for gaussian noise

#call the functions for white noise and gaussian noise




#create the top level figure and 4 subplots for white noise
                                  2          2             12 6
               "Noise Sample and Distribution (N={0})"
                            18



#histogram computations for noise values
           5
```

```
#Make a line plot of white noise

      0 0            "White noise: minvalue = {0.0} and maxvalue = {1.0}"
      0 0



#make the axis labels for the histogram plot for white noise
                   list
   for   in range len           1
                              "%4.2f-%4.2f"                          +1

#plot histogram for white noise
      0 1
      0 1                             +1

      0 1            "White Noise Histogram"
      0 1

#Make a line plot of gaussian noise
      1 0            r"Gaussian Noise: $\mu$ = {0.5}, $\sigma$ = {0.125}"
      1 0



#make the axis labels for the histogram plot for gaussian noise
                   list
   for   in range len           1
                              "%4.2f-%4.2f"                          +1

    #plot histogram for gaussian noise
      1 1
      1 1                             +1

      1 1            "Gaussian Noise Histogram"
      1 1




if          '__main__'

#end of file
```