Problem YE

Source Filename: ye/solution.py

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# Packages

import random

# Functions

def rand\_step(x, d, ymax, wrap=True):  
 """Returns the sum of x and a random float between -d and d"""  
 step = random.uniform(-d, d)  
 y = x + step  
 if wrap:  
 if y > ymax:  
 y = y - ymax  
 elif y < 0:  
 y = ymax + y  
 else:  
 if y > ymax:  
 y = ymax  
 elif y < 0:  
 y = 0  
 return y  
  
  
def rand\_steps(x0, d, ymax, n, wrap=True):  
 """Returns a list of n floats sequentially stepped from x0"""  
 values = [x0]  
 for i in range(0, n):  
 values.append(rand\_step(values[-1], d, ymax, wrap=wrap))  
 return values  
  
  
def print\_slider(k, x):  
 """Prints k '-' characters except for that with index  
 closest to x, which prints |  
 """  
 x\_rounded = round(x)  
 if x\_rounded < 0:  
 x\_rounded = 0 # Coerce to 0  
 elif x\_rounded > k:  
 x\_rounded = k - 1 # Coerce to max index  
 for i in range(0, k):  
 if i == x\_rounded:  
 print("|", end="")  
 else:  
 print("-", end="")  
 print("") # Line break applied  
  
  
def rand\_sliders(n, k, x0=None, d=3, wrap=True):  
 """Prints n random sliders with k characters"""  
 if not x0:  
 x0 = k / 2 # Start in the middle  
 values = rand\_steps(  
 x0, # Initial value  
 d, # Max step size  
 ymax=k - 1, # Subtract 1 because 0-indexed  
 n=n, # One value per slider  
 wrap=wrap, # Pass wrap  
 )  
 for x in values:  
 print\_slider(k, x)

# Call Functions and Print

print("rand\_sliders(25, 44, x0=2, wrap=True):")  
rand\_sliders(25, 44, x0=2, wrap=True)  
print("rand\_sliders(20, 44, x0=42, d=5, wrap=False):")  
rand\_sliders(20, 44, x0=42, d=5, wrap=False)

rand\_sliders(25, 44, x0=2, wrap=True):  
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rand\_sliders(20, 44, x0=42, d=5, wrap=False):  
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