



M4-06: Functions in Python

Part of the "Simulation and Distributions" Learning Badge

Video Walkthrough: <https://discovery.cs.illinois.edu/m4-06/>

Writing Functions

Puzzle #1: Find the output of the following code:

(a):	Python:	<pre>def rolldie(): roll = random.randint(1, 6) return roll</pre>
	Description:	
(b):	Python:	<pre>def rolldie(sides): roll = random.randint(1, sides) return roll</pre>
	Description:	
(c):	Python:	<pre>def rolldie(sides = 6): roll = random.randint(1, sides) return roll</pre>
	Description:	
	Exploration:	What is the result of <code>rolldie()</code> ? What is the result of <code>rolldie(100)</code> ?



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(d):

Python:	<pre>def spin(): spin = random.randint(-1, 32) if spin == -1: return "00-green" elif spin == 0: return "0-green" elif spin % 2 == 0: # even numbers return f"{spin}-black" else: return f"{spin}-red"</pre>
Description:	

(e):

Python:	<pre>def simRollSix(rolls = 10000): data = [] for i in range(rolls): roll = random.randint(1, 6) d = {"roll": roll} data.append(roll) df = pd.DataFrame(data) return len(df[df.roll == 6])</pre>
Description:	
Exploration:	<p>What is the expected result of <code>simRollSix()</code>?</p> <p>What is the expected result of <code>simRollSix(1)</code>?</p>