### Writing Functions

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

<table>
<thead>
<tr>
<th></th>
<th>Python:</th>
<th>Description:</th>
</tr>
</thead>
</table>
| (a): | `def rolldie():
    roll = random.randint(1, 6)
    return roll` | |
| (b): | `def rolldie(sides):
    roll = random.randint(1, sides)
    return roll` | |
| (c): | `def rolldie(sides = 6):
    roll = random.randint(1, sides)
    return roll` | |

**Exploration:**
- What is the result of `rolldie()`?
- What is the result of `rolldie(100)/colors?`
# M4-06: Functions in Python

## Video Walkthrough: [https://discovery.cs.illinois.edu/m4-06/](https://discovery.cs.illinois.edu/m4-06/)

### (d): Python

```python
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"
```

### Description:


### (e): Python

```python
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])
```

### Description:


### Exploration:

What is the expected result of `simRollSix()`?

What is the expected result of `simRollSix(1)`?