This quiz has 3 questions, for a total of 10 points.

1. **3 points** What code needs to be filled into the blanks labeled (a), (b), and (c) to finish this algorithm that rotates the elements in a non-empty array by one to the right?

   ```python
   def rotate_1_ripple(A):
       tmp1 = ___(a)___
       for i in range(___(b)___, len(A)-1):
           # swap A[i+1] and tmp1
           tmp2 = A[i+1]
           A[i+1] = tmp1
           tmp1 = ___(c)___
       A[0] = tmp1
   ```

   **Solution:** Grading rubric: 1 point per blank.
   a) A[0]
   b) 0
   c) tmp2

2. **3 points** Suppose the Flood-It! board is in the below configuration. How many tiles are in the flooded list? If the player chooses yellow, how many tiles will be added to the flooded list?

   ![Flood-It! board configuration](image)

   **Solution:** There are 9 tiles in the `flooded_list` (1 point). Choosing purple will add 5 tiles to the `flooded_list` (1 point for the directly adjacent tiles and 1 point of the tiles 2 or more away).
3. **4 points** What is the output of the following Python program?

```python
A = []
A.append(1)
A.append((2, 3))
A.append(4)
print(A)
print(1 in A)
print(2 in A)
A[1] = 4
print(A)
```

**Solution:**

```
[1, (2, 3), 4]
True
False
[1, 4, 4]
```

Grading rubric: after the appends, `A` is `[1, (2, 3), 4]` (1 point). So 1 is in `A` (1 point) but 2 is not (1 point). The assignment to `A[1]` causes `A` to become `[1, 4, 4]` (1 point).