1. **Whole Numbers**

   (a) A *hole number* is a number in which every other digit dips below the digits immediately adjacent to it. For example, the number 968 would be considered a hole number because the number 6 is smaller than both of its surrounding digits. Assume that we only pass in numbers that have an odd number of digits. Define the following function so that it properly identifies hole numbers.

```
def check_hole_number(n):
    """
    >>> check_hole_number(123)
    False
    >>> check_hole_number(3241968)
    True
    >>> check_hole_number(3245968)
    False
    """

    if ____________________________________________________:

        return ____________________________________________________

    return ____________________________________________________________
```

   (b) Define the following function so that it properly identifies mountain numbers. A *mountain number* is a number that either

   i. has digits that strictly decrease from right to left OR strictly increase from right to left
   ii. has digits that increase from right to left up to some point in the middle of the number (not necessarily the exact middle digit). After reaching the maximum digit, the digits to the left of the maximum digit should strictly decrease.

```
def check_mountain_number(n):
    """
    >>> check_mountain_number(103)
    False
    >>> check_mountain_number(153)
    True
    >>> check_mountain_number(123456)
    True
    >>> check_mountain_number(2345986)
    True
    """

    def helper(____________________________________________________):

        if ____________________________________________________:

            return ____________________________________________________

        if ____________________________________________________:

            return ____________________________________________________

        return ____________________________________________________

    return helper(____________________________________________________)
```