

# Python for Math and Stat Fall 2023

## Exam 1

1.

Assume that each element of nouns consists of at least 2 characters.

Example:

`plural s(['boat', 'iris', 'bench'])` returns `['boats', 'irises', 'benches']`.

**Solution:**

```
def plural s(nouns):
    result = []
    for n in nouns:
        if n[-1] == 's' or n[-2:] == 'ch':
            result.append(n + 'es')
        else:
            result.append(n + 's')
    return result
```

4. (10 pts) Write a function `middle(nums)` that takes a non-empty list of numbers and returns

- the number in the middle position of the list if the list has an odd number of elements, or
- the average of the two numbers in the middle positions if the list has an even number of elements.

Assume that each element of `nums` is an `int` or `float`.

Example:

`middle([4, -3, 80, 6, 7.2])` returns 80.

`middle([4, -3, 80, 85, 6, 7.2])` returns 82.5.

**Solution:**

```
def middle(nums):
    numsct = len(nums)
    mid = numsct // 2

    if numsct % 2 == 1:
        return nums[mid]
    else:
        return (nums[mid-1] + nums[mid]) / 2
```