CS10 With-Computer Final SOLUTIONS

```
+map+ (function1 λ) +reduce+ (function2 λ) +over+ (list ⋮) + (HOF) +
report  combine with (function2) items of (map (function1) over (list))
```

```
+map+ (function1 λ) +reduce+ (function2 λ) +over+ (list ⋮) + (recursive) +
if (length of (list) = 1)
    report (call (function1) with inputs (item 1▾ of (list)) ◄►)
report
  call (function2)
  with inputs (call (function1) with inputs (item 1▾ of (list)) ◄►)
    (map (function1) reduce (function2) over (all but first of (list)) (recursive))
  ◄►
```

```python
#Section 1

def starts_with_same_letter(sequence):

    words = sequence.split()

    letter_dict = {}

    for word in words:

        if word[0] in letter_dict:

            if word not in letter_dict[word[0]]:

                letter_dict[word[0]] = letter_dict[word[0]] + [word]

        else:

            letter_dict[word[0]] = [word]

    max_len = max([len(lst) for lst in letter_dict.values()])

    for lst in letter_dict.values():

        if len(lst) == max_len:

            return lst


#Alternate solution

def starts_with_same_letter_v2(sequence):

    words = sequence.split()

    letter_dict = {}

    for word in words:

        if word[0] in letter_dict:

            if word not in letter_dict[word[0]]:

                letter_dict[word[0]] = letter_dict[word[0]] + [word]

        else:

            letter_dict[word[0]] = [word]

    return max(letter_dict.values(), key=lambda lst: len(lst))
```