

Week 5 Discussion Worksheet

1a. Write a function to calculate the median of a set of numbers.

1b. Write a function to calculate the range(max-min) of a set of numbers.

1c.

```
def summary_stat(operation):  
    """  
    Write a function that takes in a specified operation and returns a function that  
    will take in a set of numbers and calculate the operation accordingly.  
  
    possible operations:  
        min -> finds the minimum value  
        max -> finds the maximum value  
        range -> finds the range of the values  
        median -> finds the median of the values  
  
    >>> med = summary_stat('median')  
    >>> med([1,2,3,4,5,6])  
    3.5  
    >>> ran = summary_stat('range')  
    >>> ran([1,2,3,4,5,6])  
    5  
    """
```

2. Given the following description of a function, write its method header:

Write a function “count_len_lsts” that takes in an **unknown** number of lists and returns the sum of the length of the first ‘counter’ lists, defaulted value of 4.

Now implement the function accordingly:

3. What is the result of the following function and function call?

```
def foo(**kwargs):  
    output = []  
    for k,v in kwargs:  
        output.append((k,v))  
    return output  
foo(temp=1,fizz=2,buzz=3)
```

4.

```
def query_data(database, source, quality):  
    """  
    Write a function that takes in a dictionary and returns a list  
    of items from source that are at least of quality level.  
    Requirement: map/filter/lambda only  
    args:  
        database(list): list of dictionary data entries  
        source (str): string for source of items to be pulled  
        quality(int): numerical representation of quality  
    returns:  
        a list of items from source that are at least of quality level  
  
    >>> data = [  
        {'name':'a', 'quality':4, 'source':'dsc'},  
        {'name':'b','quality':10, 'source':'lign'},  
        {'name':'c','quality':2, 'source':'dsc'},  
        {'name':'d','quality':5, 'source':'dsc'}  
    ]  
    >>> query_data(data, 'dsc', 4)  
    ['a','d']  
    """
```