main.py

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import functions
import sys

print("Welcome to the Stats Calculator! ")
listLen = input("How many numbers are in your list? ")

while True:
    if not listLen.isnumeric():
        print("List Length must be a positive whole number")

    elif int(listLen) <= 1:
        print("List must be greater than 1")
    else:
        break
    listLen = input("How many numbers are in your list? ")



listLen = int(listLen)
def compile(listLen):
    list = []
    for i in range(0, listLen):
        num = input("Enter number " + str(i+1) + ": ")
        if num.isnumeric() == True:
            list.append(int(num))
        elif num.isnumeric() == False:
            print("Can only accept whole numbers. \nPlease restart and
try again")
            sys.exit(0)
        list.sort()
    return list

list = compile(listLen)

print("Sorted List:", list)
print("Mean: " + str(functions.mean(list, listLen)))
print("Min: " + str(min(list)))
print("Q1: " + str(functions.q1(list, listLen)))
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print("Median: " + str(functions.median(list, listLen)))
print("Q3: " + str(functions.q3(list, listLen)))
print("Max: " + str(max(list)))
print("IQR: " + str(functions.iqr(functions.q1(list, listLen),
functions.q3(list, listLen))))
print("Range: " + str(functions.range(min(list), max(list))))
```

functions.py

```
import math

def mean(list, length):
    mean = sum(list) / length
    return mean

def q1(list, length):
    length = int(length)/2
    lowerList = list[0: int(length)]
    length = int(length)
    if length / 2:
        length -= 1
    length -= 1
    if (len(lowerList)%2) == 0 :
        q1 = (lowerList[length-1] + lowerList[length]) /2
        return q1
    else:
        return lowerList[length]

def median(list, length):
    if length % 2 == 0:
        middleOne = list[length // 2 - 1]
        middleTwo = list[length // 2]
        median = (middleOne+middleTwo)/2
    else:
        median = list[length//2]
    return median

def q3(list, listLen):
    length =  math.ceil(int(listLen)/2)
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    upperList = list[int(length): (listLen)]
    length = int(length)
    if length / 2:
        length -= 1
    length -= 1
    if (len(upperList)%2) == 0 :
        q3 = (upperList[length-1] + upperList[length]) /2
        return q3
    else:
        return upperList[length]

def iqr(q1, q3):
    iqr = q3 - q1
    return iqr

def range(min, max):
    range = max - min
    return range
```