BASH Scripting + Git

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In-Lab Problem Statement:
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Useful tips and Submission guidelines for InLab assignment

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1. Solution for each assignment is to be typed into the .sh file already kept inside the corresponding folder.
2. Remember, you need to change the permission of the .sh file before executing it:

chmod u+x <scriptfile> OR chmod 777 <scriptfile>

3. Do not change the structure and the names. The automatic checker will give you a "not submitted" grade otherwise, if it does not find the names.
4. Remember to follow the exact output formats specified. Extra characters will lead to incorrect evaluation by automatic checker.
5. Inside the script if you use any temporary file, write command to remove it after the operation within that script only.

Submission Guidelines for InLab assignment ----

Strictly follow the instructions given below:
1. Create a file readme.txt in inLab2 directory, which contains contribution of each team member and references.

2. Rename the directory inLab2 to <team_name>.

3. Compress the directory to <team_name>.tar.gz

4. Submit one assignment per team.

5. Put all this on Git - one per user, provide all usernames in the readme file for us to check.

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Problem 1:

Write a bash script to take a number N as an argument. Your script 'q1.sh' should be able to calculate the sum of squares of numbers from 1 to N and display the output. Your script output should only be the "sum of numbers squares from 1 to N" and nothing else.

E.g.:>>./q1.sh
5 >>55

Problem 2:

Write a bash script to take a path as an argument. The script q2.sh' should count the number of folders inside the path and display the output('the count'). Your script output should only be the "count of number of folders inside the path" and nothing else.

Hint: Explore commands grep, ls, find, wc

E.g.:

If we have a folder "avengers" containing the first five founding members name folders (sample folder provided).

>>./q2.sh avengers/
>>5

Problem 3:

Write a bash command to output a file containing numbers in "ascending order" with at least one digit '5' in the number.
For example if the list of numbers is 1234 1511 5951 2856 9999 then the output of the command should be 1511 2856 5951 in a separate file.
You should take input from a provided file containing a list of numbers and output a list sorted numbers with given constraint in a separate file.

Hints:
Checkout **"grep"** , "**sort**" and **I/O redirection**.

NOTE:

File provided to you named "q3_in.txt" will contain a list of numbers.
File to submit should be named "q3_out.txt"
"q3_out.txt" should strictly contain each number on a new line.
You also need to submit the command you used to generate output with name "q3.sh"

Problem 4:

You will be given a list of numbers in a file named as "q4_in.txt".Write a shell script to find the mean and median of the given numbers.
Output two numbers on separate lines corresponding to mean and median.

The final directory structure:

<team-name>.tar.gz
-- team-name/
--q1/
--q2/
--q3/
--q4/
--readme.txt

Strictly Follow the directory structure given in the tar file.