- Questions are not in a particular order of complexity.
- Evaluation will be manual ; try to solve all the questions ; focus on solving rather than optimizing.
- Comment your code properly ; It would be easy for us when we evaluate.

Question 1

Given an expression containing only parentheses ; only one type of parenthesis - (), write a program which outputs YES or NO if it's balanced or not. Assume that the input is read from standard input.

Eg: () is balanced ; (() is not

Question 2

Consider the extension of the above problem, with multiple type of parentheses. That is, (), [], and {}. Write a program which reads expression from standard input and outputs YES or NO based on whether balanced or not.

Eg:

()()[()]{()[]} - balanced.

)(- unbalanced.

Question 3

Find a CSV file in the below link. It contains grades data for students. Read from the file and display the following statistics:

Grades.csv: https://ptpb.pw/4dAC

1. For each column except roll_number, output the mean and standard deviation of the batch of students.
2. Compute the total for each student, and find the mean and standard deviation for the same.
3. Print the roll number of the student who attained the highest aggregate score in the batch.

Question 4

The link given below contains a list of names in your phone directory. You are to read a query name from standard input and list out 5 names which are most similar to the input

string. Assume input is a single word first name. You can use a similarity measure of your choice.

Names.txt: https://goo.gl/7oKHii

Question 5

Write a program that takes three real numbers and computes the area of a triangle with these as sides. You should output a 0 if the given sides do not form a valid triangle. Give the area rounded to two decimal places.
Eg:
Input :

2.0 1.5 1.5

Output:

1.12

Question 6

Count the number of Armstrong Numbers in the given query range. An Armstrong number is an integer such that the sum of the cubes of its digits is equal to the number itself. For example, 371 is an Armstrong number since 3^3 + 7^3 + 1^3 = 371. The input from standard input would be two space separated integers L and R. You should output the count of Amstrong numbers in the range

Eg:
Input
1 3
Output
1

Question 7

Given the following skeleton code for a linked list, complete the function - *reverse()* which reverses the linked list

Linkedlist.c: https://ptpb.pw/Xkur/c