MAT 115E Introduction to Programming Language

Lab-2 / CRN : 21132

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1 Question 1

Read two alphabetic characters from the user using the **getchar()** function. Find the geometric mean of these two characters and print it to the screen.
Let ch_1 and ch_2 be two characters entered by user. **Geometric Mean** of their ASCII is computed as follows:

$$G(ch_1, ch_2) = \sqrt{ch_1 * ch_2}$$

Example Scenario:
> Enter the first character: F
> Enter the second character: S
> Geometric Mean of F and S is 76.22 .

2 Question 2

We wish to calculate distance between two points. But these points consist of letters in English alphabet. In this case, one can compute the distance between the ASCII values of these points. Write a C program that reads two points and print the distance between these two points on the screen.
In this question, you must use Euclidean Distance. Let (x_1, y_1) and (x_2, y_2) be the first and second point, respectively. Formula for the Euclidean distance is below:

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

Example Scenario:
> Enter the first point : D K
> Enter the second point : H L
Then we find the ASCII values corresponding to these letters: $D \Longrightarrow 68$, $K \Longrightarrow 75$, $H \Longrightarrow 72$, $L \Longrightarrow 76$.
So, the ASCII equivalent points are: $(D, K) = (68, 75)$ and $(H, L) = (72, 76)$.
Now we apply the Euclidean Distance on these points and then print distance on the screen.

$$d = \sqrt{(68 - 72)^2 + (75 - 76)^2}$$

> The distance between points (D, K) and (H, L) is 4.123.