CS19003 Programming and Data Structures Laboratory
Assignment 1

▷ Name the files as ⟨assignment no⟩_⟨question no⟩_⟨roll no⟩.c, without the ⟨ and ⟩. Consult your mentor for any confusion. Penalty if the file names do not stick to this convention.

▷ Restrict yourself to the concepts taught in the theory classes so far. Do not use conditionals, loops, arrays (or any advanced concept).

▷ Do not use any math library function.

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1. (Know your machine) Write a program that prints the sizes of all the data types that have been taught to you last week. Take note of whether or not they differ from the "usual sizes" written in the lecture slides.

   [0 points]

2. Declare two integer variables x, y and a floating point variable z. Scan values into x and y through the keyboard. Write a **SINGLE** statement that (a) assigns the fractional part of x/y to z, and (b) increment x by 1. The old value of x should be used in the division in part (a). Finally, print the final values of z and x on the screen.

   Sample input and output

   Enter x and y: 4 3
   x=5, z=0.333333

   [Hint: Use pre or post increment operator (whichever is suitable).]

   [10 points]

3. Write a program that reads in the co-ordinates of the vertices of a quadrilateral on the two-dimensional real plane in clock wise order, and prints 1 it is regular (i.e., all the sides have the same length) and 0 otherwise (remember: no conditionals!). Assume that all the co-ordinates are integers.

   [10 points]

4. Write a program to take in four integers through the keyboard, store them in integer variables, and compute and print the average of their squares correct up to exactly 3 places of decimal.

   [10 points]