Indian Institute of Engineering Science & Technology, Shibpur
Department of Computer Science & Technology.
8th Semester Artificial Intelligence Laboratory.
ASSIGNMENT- 2
(Arithmetic in Prolog)

Duration- 2 periods.   **Full Marks (including Viva Voce)-10**

Write Prolog programs
1. To find the **sum** of all elements of a list.
2. To find the **length** of a list.
3. *To find the **average** of all elements of a list using **sum** and **length** defined in Problem 1 and 2.
4. To find the **maximum** number from a list.
5. *To find **gcd** of two integers.
6. *To **generate** all integers **between** two integers N1 and N2, both N1 and N2 included and N2>N1.
7. *To **count** numbers **greater** than 100.0 in a list.
8. *To **split** a list of numbers in two lists such that one contains negative numbers and other contains positive numbers.

For the Problems 9 – 13, you can **only** assume increment by 1 (i. e., +1), decrement by 1 (i. e., -1) and any other predicate defined earlier in 9 – 12.
9. *To recursively **add** two integers.
10. *To **subtract** two integers recursively.
11.* To **multiply** two integers recursively.
12. *To **divide** two integers recursively and get the quotient.
13. *To find the **square root** of an integer.
14.* To find **N!**.
15. *To generate first N **Fibonacci** numbers.
    *marked problems are not done in the class.