

## Logic Programming: Small exercises

Write PROLOG programs for the following problems:

### Exercise

1. Define the Factorial (i.e.  $\text{fact}(n) = 1 * 2 * 3 * \dots * (n-1) * n$ )
2. The Fibonacci sequence  $f(1), f(2), f(3), \dots$  is: 1, 1, 2, 5, 8, 13, 21, 34, 55..... As you see the definition is easy to grasp:

$$f(1) = f(2) = 1$$

$$f(n) = f(n-2) + f(n-1), \text{ if } n \geq 3$$

3. Write rules which finds a path in a graph

$\text{arc}(a, b).$                        $\text{arc}(b, c).$

$\text{arc}(a, c).$                        $\text{arc}(a, d).$

$\text{arc}(b, e).$                        $\text{arc}(e, f).$

$\text{arc}(b, f).$                        $\text{arc}(f, g).$

4. Compute the Maximum of two numbers X and Y.
5. Compute the absolute value of a number X.