

The formal definition of any machine

The general formula of any machine of function f is :

$$p=i; \text{ while}(a)\{p=f(p,x);\}$$

- f : function of the machine
- p : present state
- x : unpredictable input
- i : initial state
- a : activated

When $a=0$ the machine ends working.

The state of the present state p represents the variables which are part of the machine.

For a machine which can stop working by itself a has to be member of p .

Otherwise, a is a member of x and thus completely unpredictable.

At each start the initial state i will be applied again.

x and p have bound sizes and form the domain of the function f .

f and i are sufficient to define the machine.

$f(p,x)$ is the next state which becomes the present state p .

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