Extensions of Abelian Automata Groups

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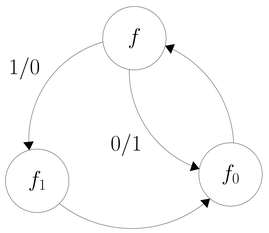
Mealy Automata

A **Mealy Automaton** $\mathcal{A}$ is a finite state machine which encodes a family of continuous functions from Cantor Space to itself. For us, these continuous functions will always be homeomorphisms, and thus we may associate to a machine $\mathcal{A}$ a subgroup $\mathcal{G}(\mathcal{A})$ of the automorphisms of Cantor Space.

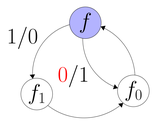
Classifying all groups generated by even 3-state machines is still and open problem, so we will focus attention on those which generate abelain groups.

An Important Example: $\mathcal{A}_2^3$

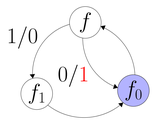


(Unlabeled edges correspond to both 0/0 and 1/1 edges)

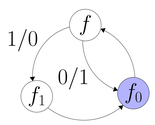
Computing $f(0110\ldots)$



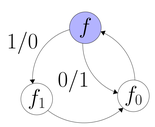
$f(0110\ldots)$



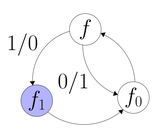
$1f_0(110\ldots)$



$1f_0(110\ldots)$



$11f(10\ldots)$



$110f_1(0\ldots)$

The Center

lorem ipsum

The Right Side

lorem ipsum