

Individual Work

1. [50 %] Use GOLD to implement:

Define a **finite state transducer** that reads strings of $\{a, b, c\}$ and writes strings of $(0..7)$ where the number that is written represents **the number of a's, b's and c's modulo 2 that have been read at each instant.** The following table shows what is written in each case:

a's mod 2	b's mod 2	c's mod 2	writes
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	0	0	4
1	0	1	5
1	1	0	6
1	1	1	7

Moore (state-based)

We show some examples:

Input	Output
abccab	0467620
aaaa	04040
ababab	0462046
abcabcaabbcaacb	0467310402015102
λ	0

2. [50 %] Use GOLD to implement:

An automaton that decodes strings coded with the previous automaton.

Mealy (transition-based)