VLSI Testing PA1
B08505039 工海四 林楷崴

1. In sim.cpp, first I marked every gate which connects to the changed inputs, and remove the changed flag on the input wire. Second, I check every gate, if marked, evaluate the value and propagate the value by marking the following driven gate.

2. In faultsim.cpp, there are three TODO：

    2.1. Function inject_fault_value is used to inject fault to the right bit position. According to the fault type(SA0 or SA1), I use bit operation with mask to create such fault.

    2.2. Function fault_sim_evaluate checks if the output new value is different from the good value. First, I use function combine to make sure if such fault is injected to create the new_value. Second, saving the new value as faulty value and push such wire to wlist_faulty only if it's not set to be faulty. Lastly, if the following wire is not an output, we should schedule the wire to propagate.

    2.3. Function falut_sim_a_vector is used to mark the detected fault. After the simulation, if the wire is output, we should check the faulty value and the good value. If different, we should change simulated_fault_list for such detect to TRUE and reset the fault value with good value.

circuit number	number of test vector	number of gates	number of total faults	number of detected faults	number of undetected faults	fault coverage
C499	66	554	2390	2263	127	94.69%
C1355	63	554	2726	1702	1024	62.44%
C6288	42	4800	17376	17109	267	98.46%
C7552	289	5679	19456	19144	312	98.40%