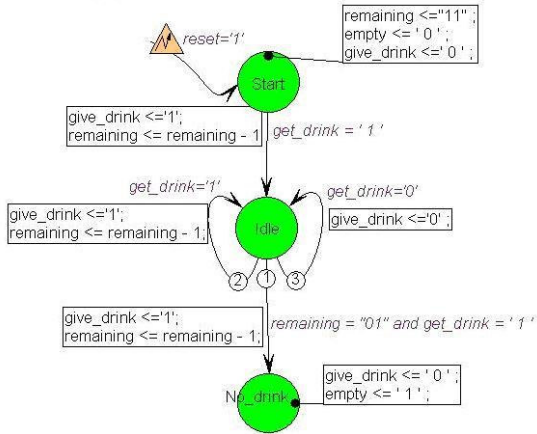
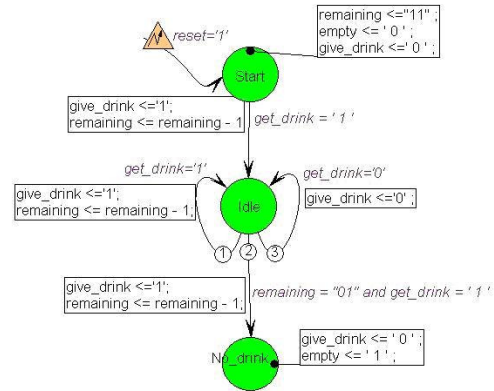


Example 2 Changing priorities in the FSM specification



FSM graph with right priorities



FSM graph with changed priorities

```

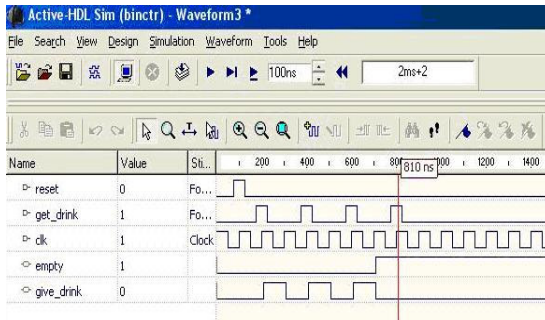
curstate_machine: process (CLK, reset)
begin
    if reset='1' then
        remaining <="11";
        empty <= '0';
        give_drink <='0';
    curstate <= Start;
    elsif CLK'event and CLK = '1' then
        case curstate is
            when Idle =>
                if remaining = "01" and get_drink = '1' then
                    curstate <= No_drink;
                    give_drink <='1';
                    remaining <= remaining - 1;
                elsif get_drink='1' then
                    curstate <= Idle;
                    give_drink <='1';
                    remaining <= remaining - 1;
        end case;
    end if;
end process;
    
```

VHDL code with correct priorities

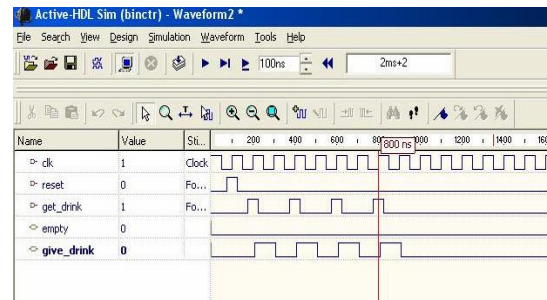
```

curstate_machine: process (CLK, reset)
begin
    if reset='1' then
        remaining <="11";
        empty <= '0';
        give_drink <='0';
    curstate <= Start;
    elsif CLK'event and CLK = '1' then
        case curstate is
            when Idle =>
                if get_drink='1' then
                    curstate <= Idle;
                    give_drink <='1';
                    remaining <= remaining - 1;
                elsif remaining = "01" and get_drink = '1' then
                    curstate <= No_drink;
                    give_drink <='1';
                    remaining <= remaining - 1;
        end case;
    end if;
end process;
    
```

VHDL code with changes priorities



Correct simulation results
 FSM graph of a drink machine with correct priorities



Wrong simulation results
 FSM graph of a drink machine with changed priorities