

# ESP

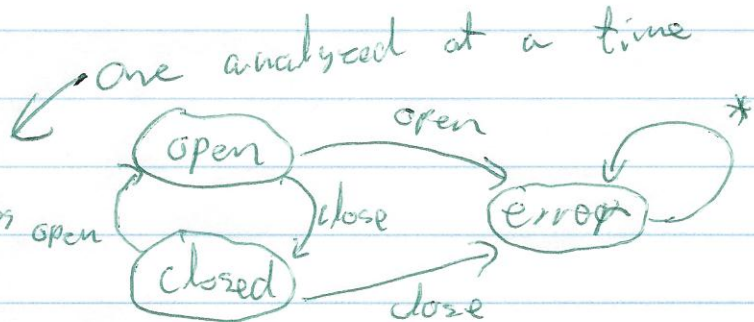
## Motivation

- Temporal safety properties
- Scalable
- Path Sensitive

## How it works

State machine

- use pattern matches for transitions



## CFG

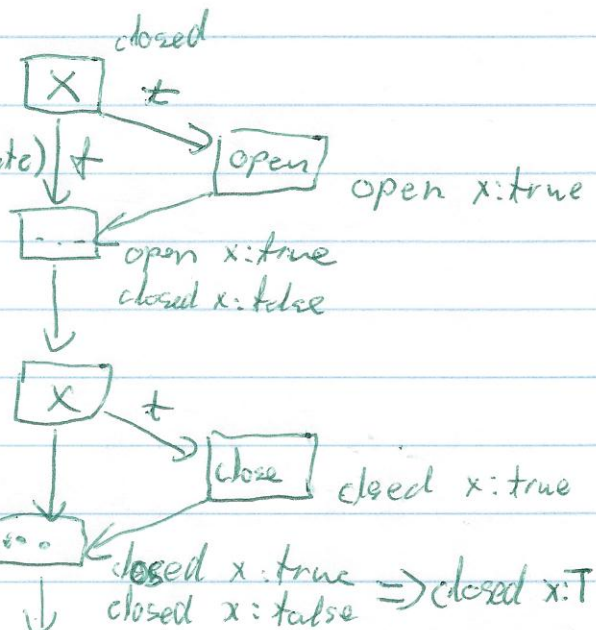
Symbolic state = (SM state, execution state)

eg open

lattice point

eg  $x=7$

Merge execution state at cfg node if same SM state



Use function summaries for interprocedural analysis

## Classification

Lightweight

Sound but not complete

- Using least upper bound - not fully path sensitive.

Highly scalable

Polynomial time  $O(\text{sm states} \cdot \text{cfg nodes})$