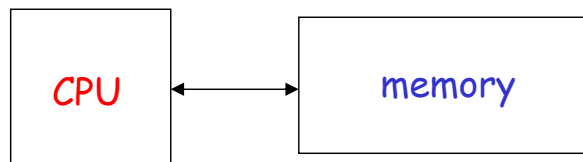


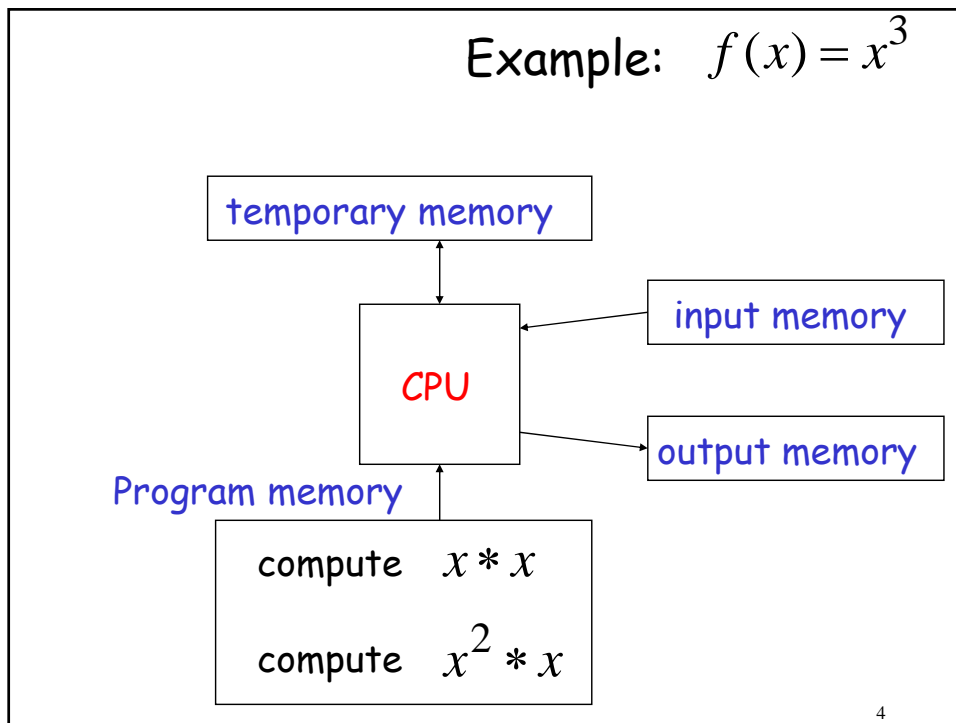
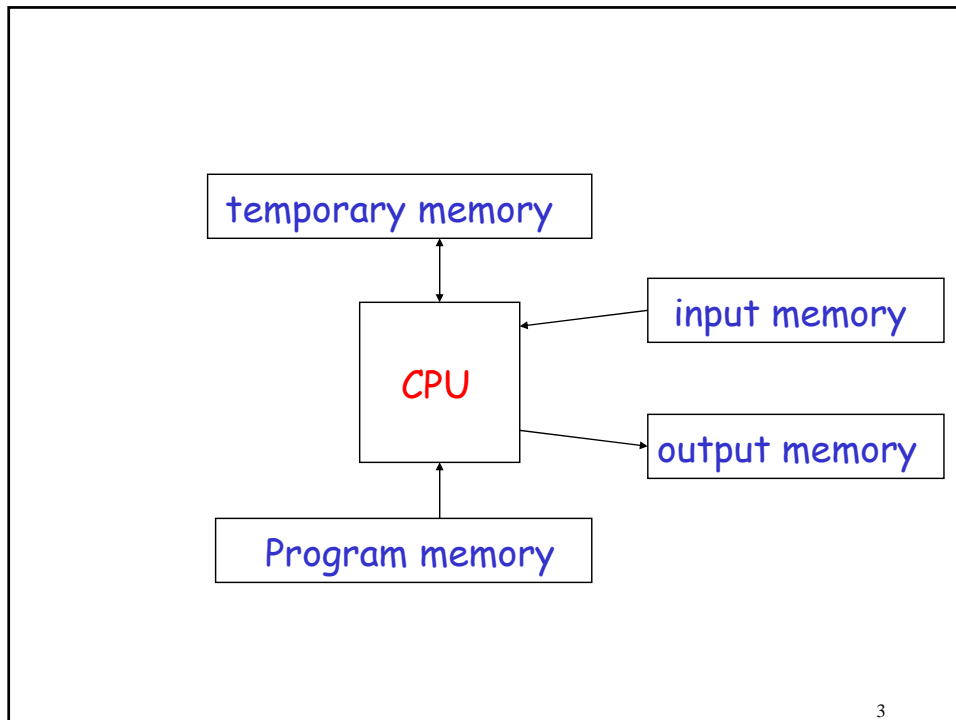
"Theory of Computation"

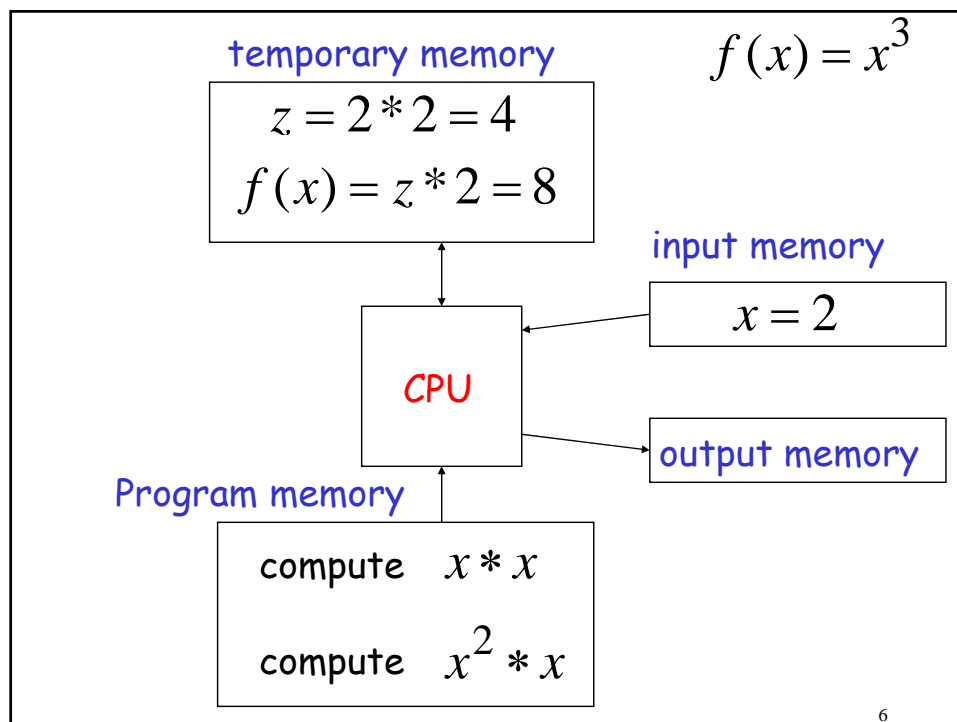
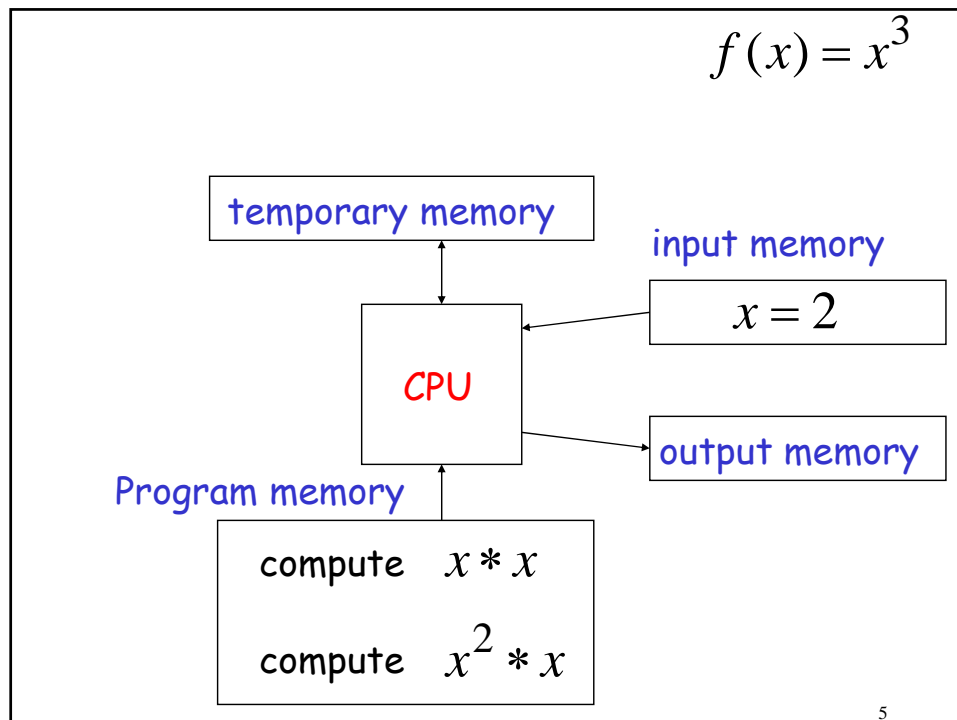
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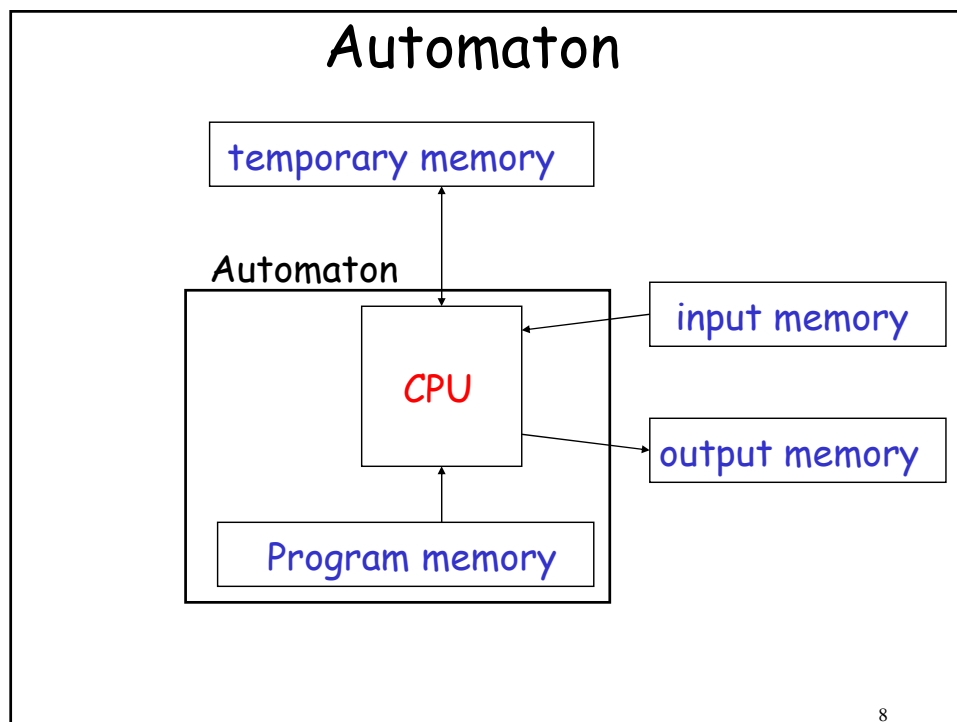
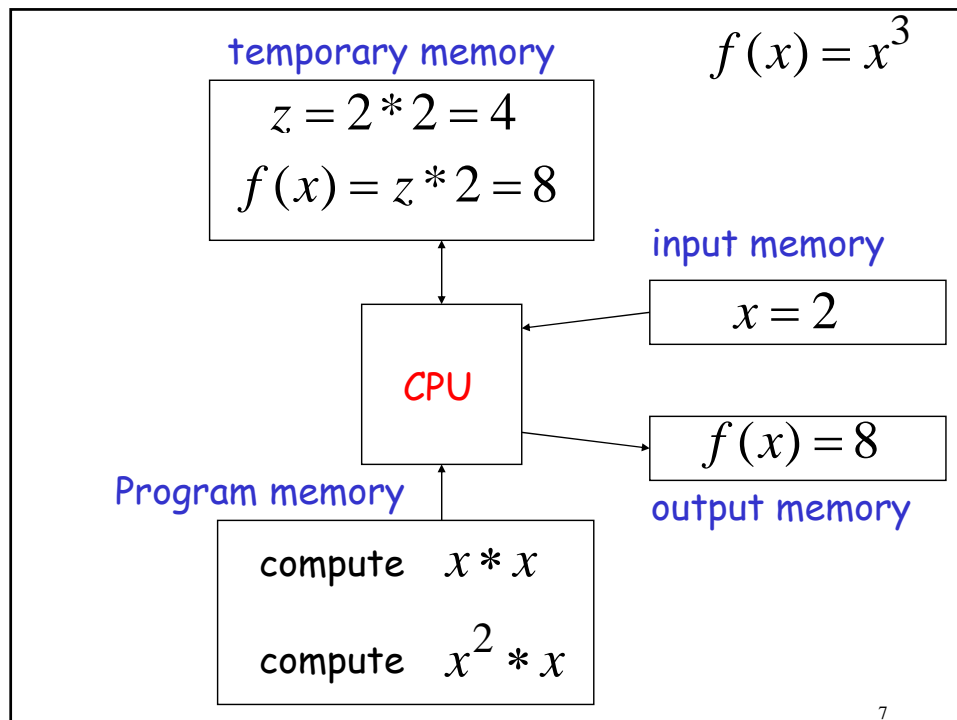
Computation



2







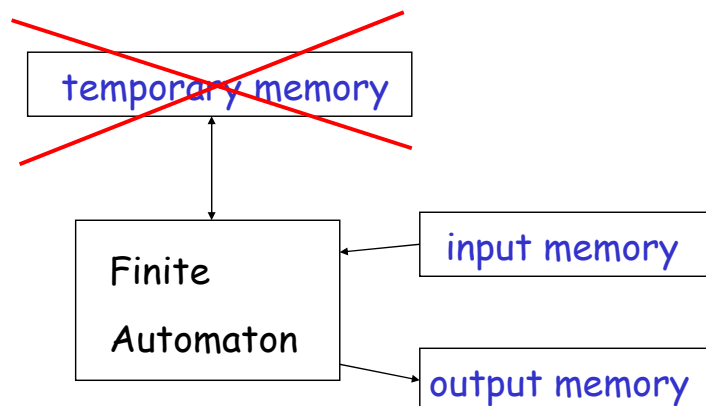
Different Kinds of Automata

Automata are distinguished by the temporary memory

- **Finite Automata:** no temporary memory
- **Pushdown Automata:** stack
- **Turing Machines:** random access memory

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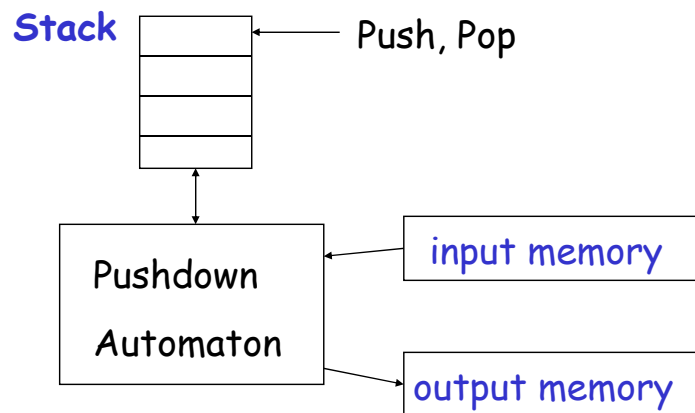
Finite Automaton



Example: Vending Machines
(small computing power)

10

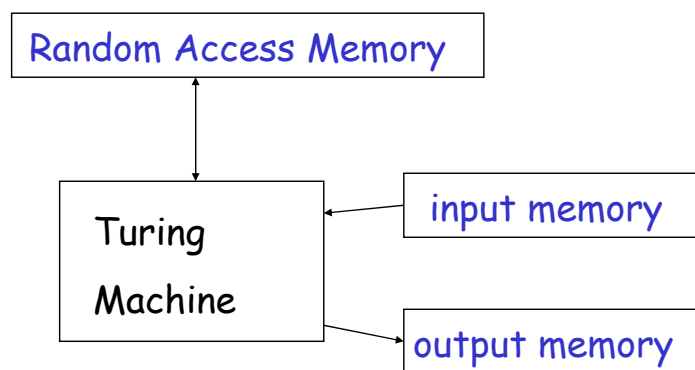
Pushdown Automaton



Example: Compilers for Programming Languages
(medium computing power)

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Turing Machine



Examples: Any Algorithm
(highest computing power)

12

Power of Automata

Finite
Automata



Pushdown
Automata



Turing
Machine

Less power



More power

Solve more
computational problems