COMPUTATIONAL THINKING

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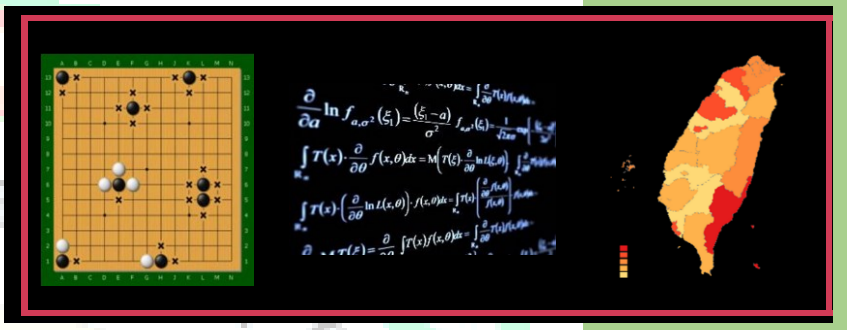
What is CT ?



- Critical Thinking + Computing Power = Making Decisions and Innovate Solutions

- Skills needed to solve an equation, plan a project, or develop an outline for a writing assignment share similar qualities. They all include important problem solving competencies that students need throughout their lifetime. CT can magnify problem-solving skills needed to address authentic, real-world issues.

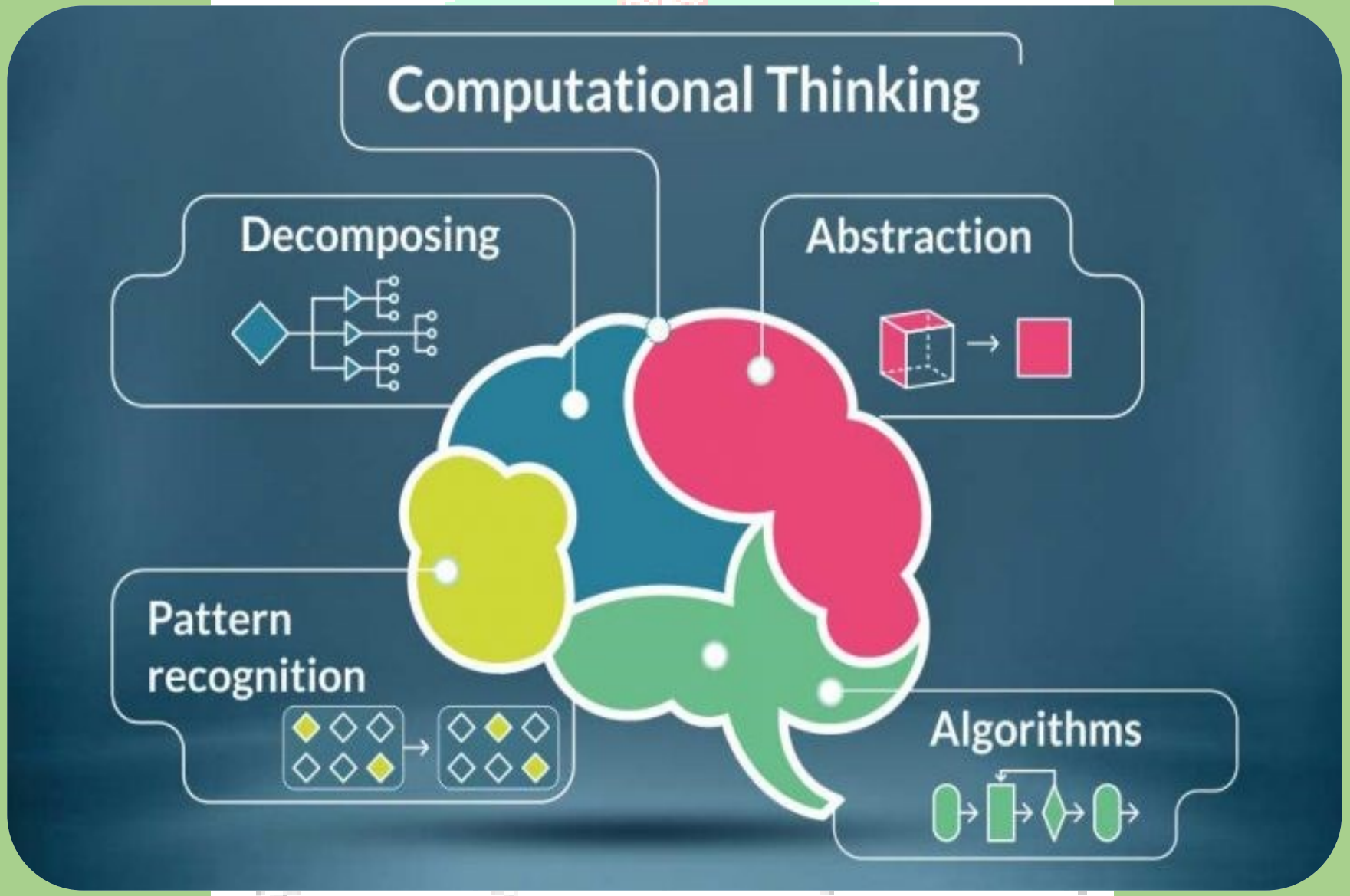
CT for All Students

■ The knowledge and skills that students need to know and be able to do by the time they graduate from secondary school.

■ Bringing CT into formal K-12 education will provide our students with vital problem solving skills. CT is for students of all ages and can be learned and practiced in all disciplines.

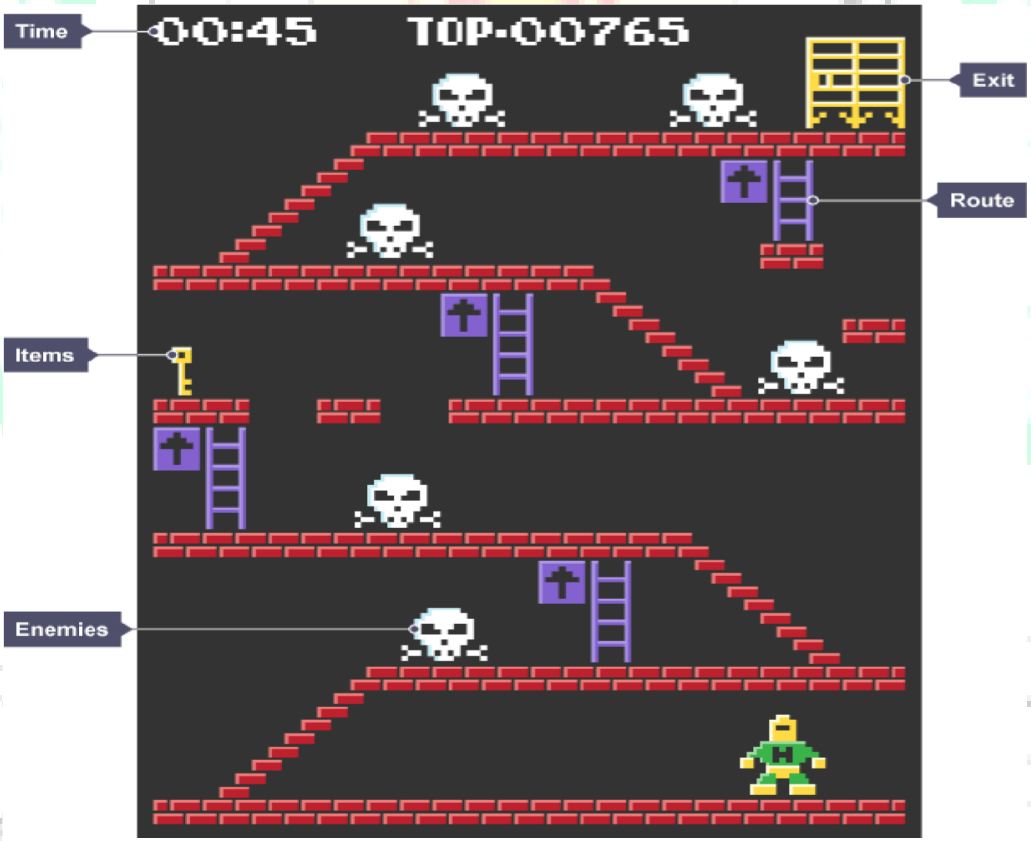
CT for All Teachers

- All teachers are responsible for teaching skills, practice, and assessment of CT.
- Most teachers already incorporate CT basics, but may not know it.
- CT has a shared vocabulary that can be highlighted in lessons from every discipline.
- CT is made up of foundational building blocks of concepts, skills, and dispositions that get more sophisticated as students get older.
- CT doesn't necessarily require computers.


Computational Thinking
Decomposing
Abstraction
Pattern recognition
Algorithms

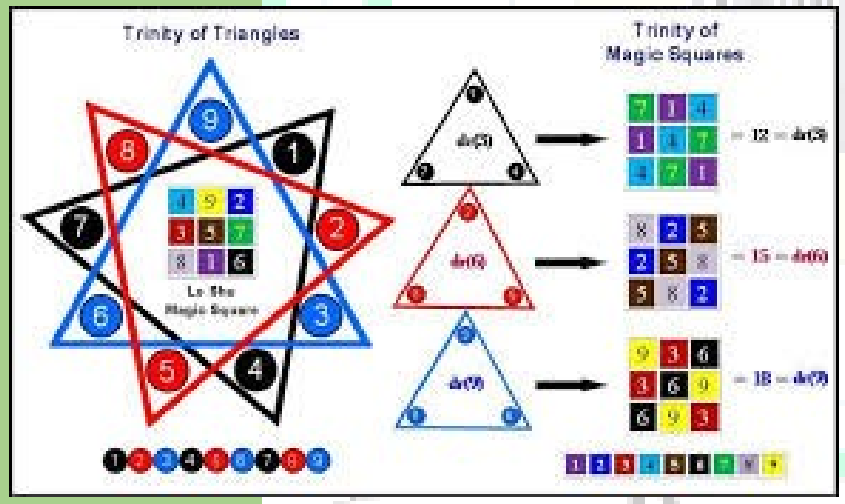
Decomposition

The breaking down of a system into smaller parts that are easier to understand, program and maintain.



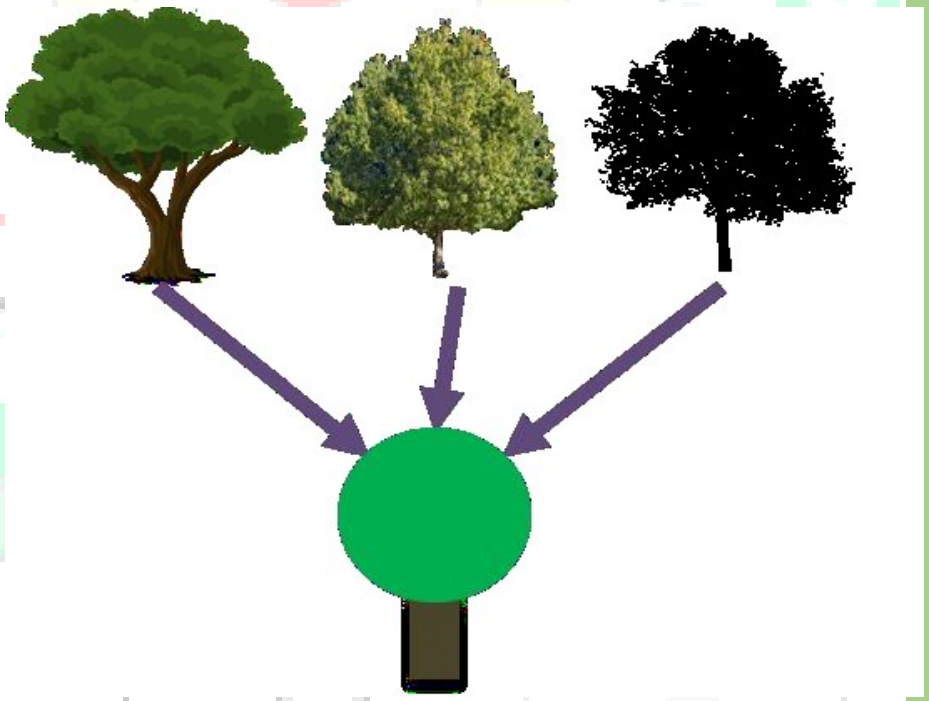
Pattern Recognition

Looking for similarities among and within problems



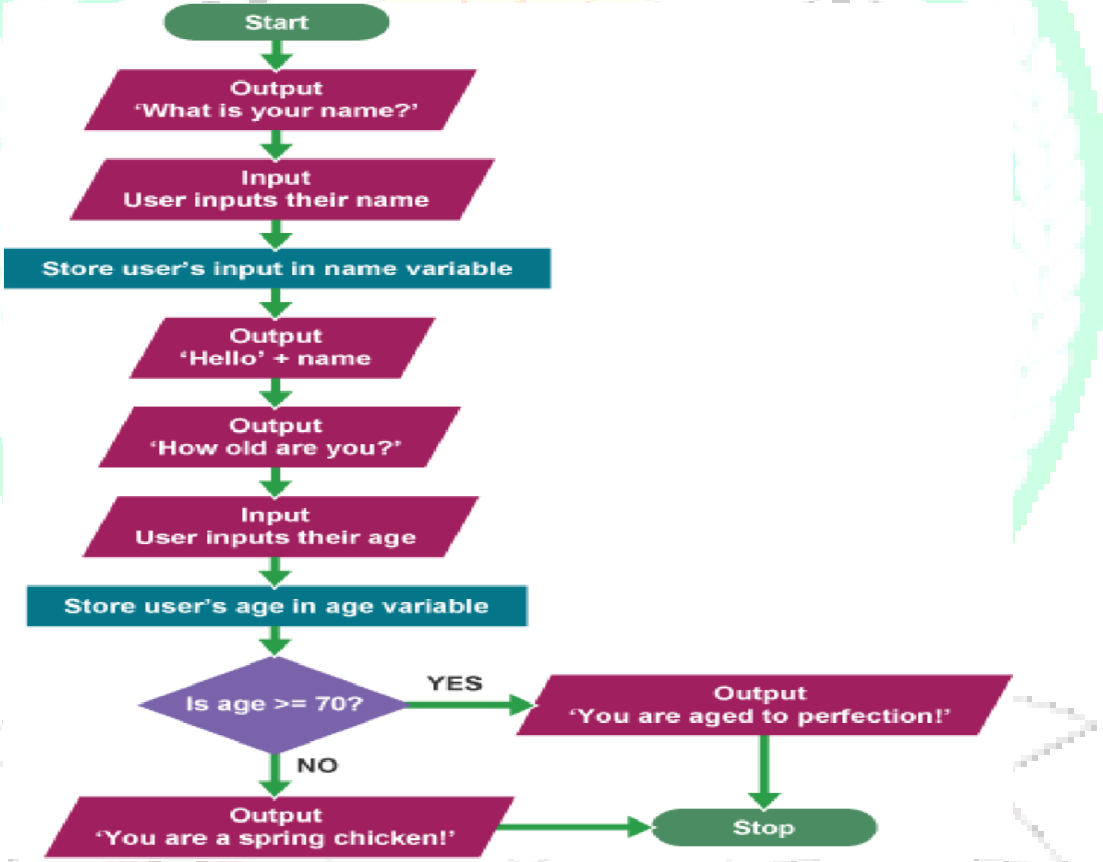
Abstraction

Focusing on the important information only, ignoring irrelevant detail



Algorithm Design

Developing a step-by-step solution to the problem, or the rules to follow to solve the problem



So what can happen in my classroom ?

- Computer Science or Technology
- Math
- Science
- Social Studies
- Language
- Fine Arts
- Others

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THANK YOU