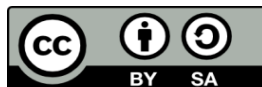
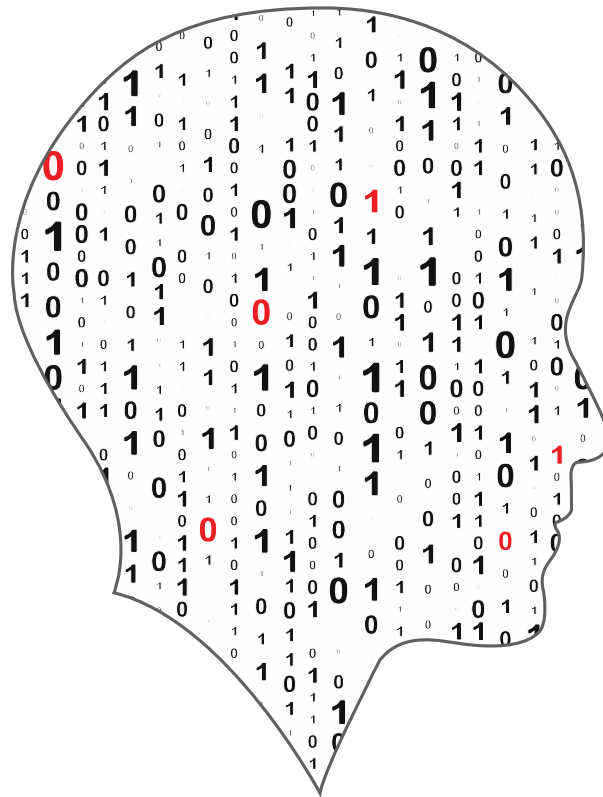




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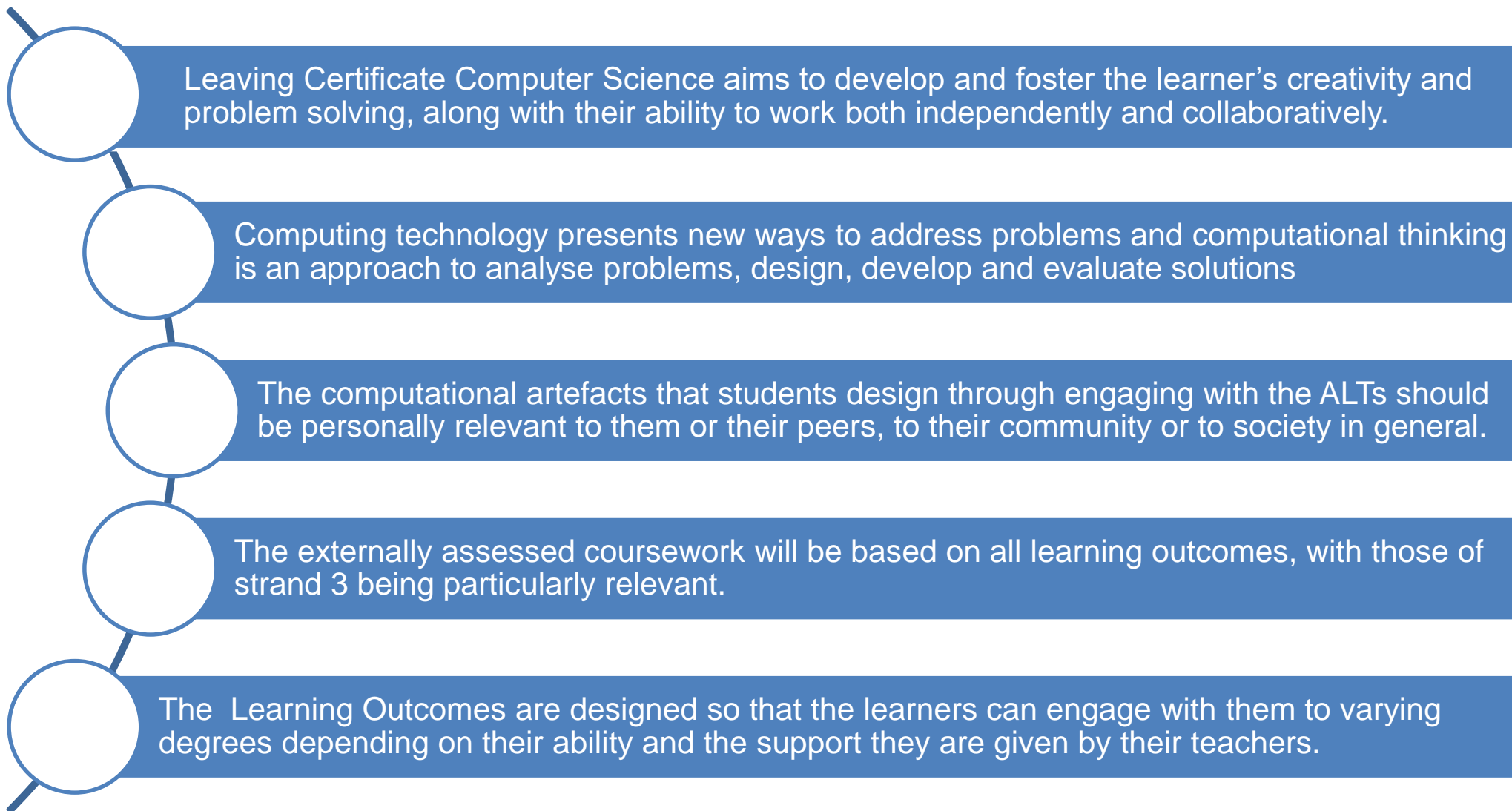
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# LEAVING CERTIFICATE COMPUTER SCIENCE

## National Workshop 3

# Key Messages



# Schedule – Day 2

9.00am - 11.00am	<i>Session 3:</i> Computational Thinking
	Break
11.30am - 1.00pm	<i>Session 4:</i> ALT3 – Modelling and Simulation
	Lunch
2.00pm – 4.00pm	<i>Session 5:</i> ALT3 – Project Design and Development

# Session 3

## Computational Thinking

# Part 1

## Warmup Activities

# How did you TC?

$$x^2 - y^2 = 41$$

MATHS

SISTERS



4 CHALICES







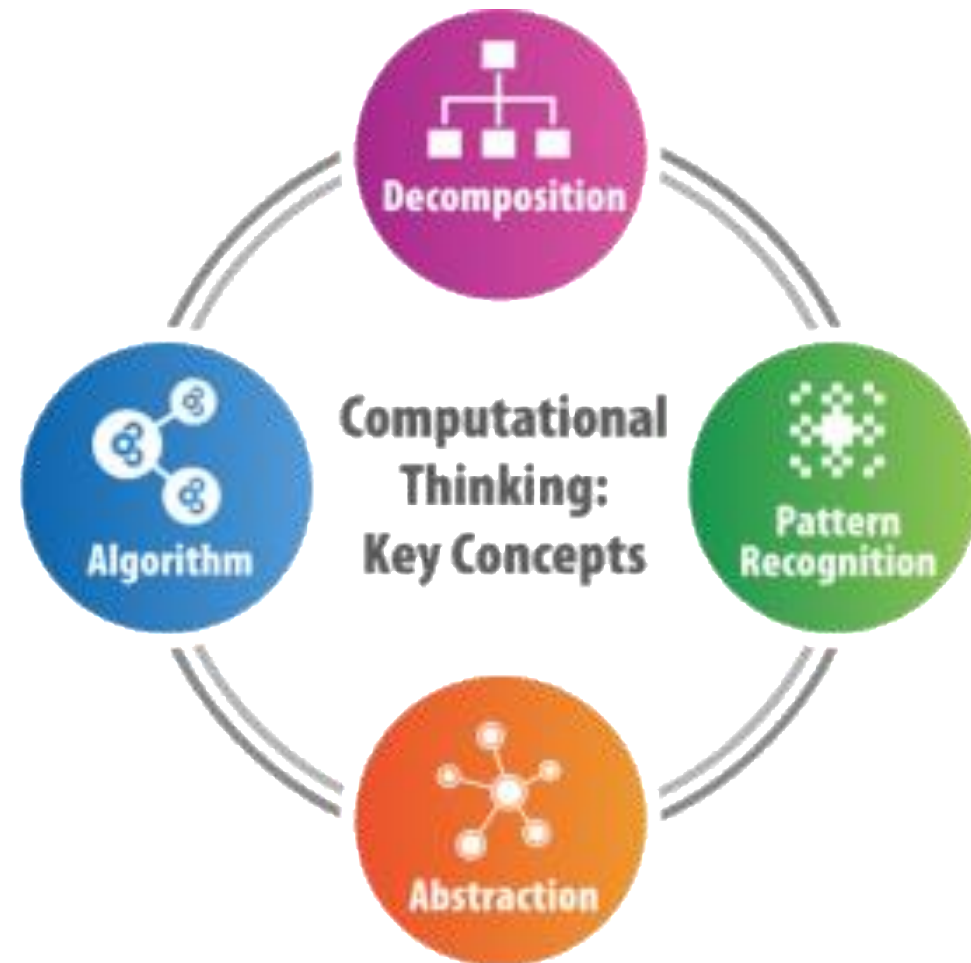
# Part 2

## Two Viewpoints: Wing vs. Denning

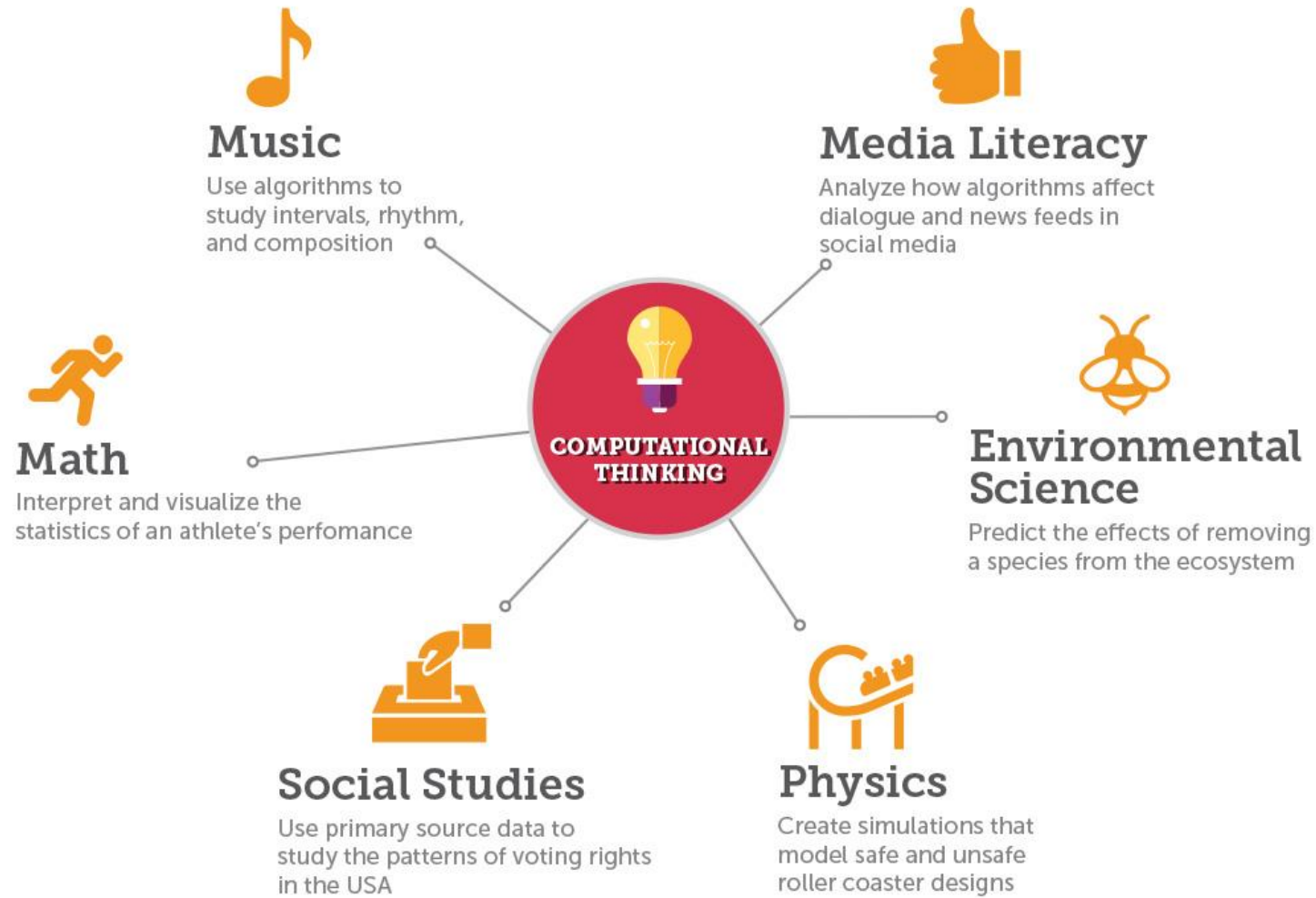


# Computational thinking is made up of four parts:

- Decomposition.
- Pattern recognition.
- Abstraction.
- Algorithm design.



# Computational Thinking Across Subjects



Graphic by Colin Angevine - <http://digitalpromise.org/>

# Unresolved questions concerning CT

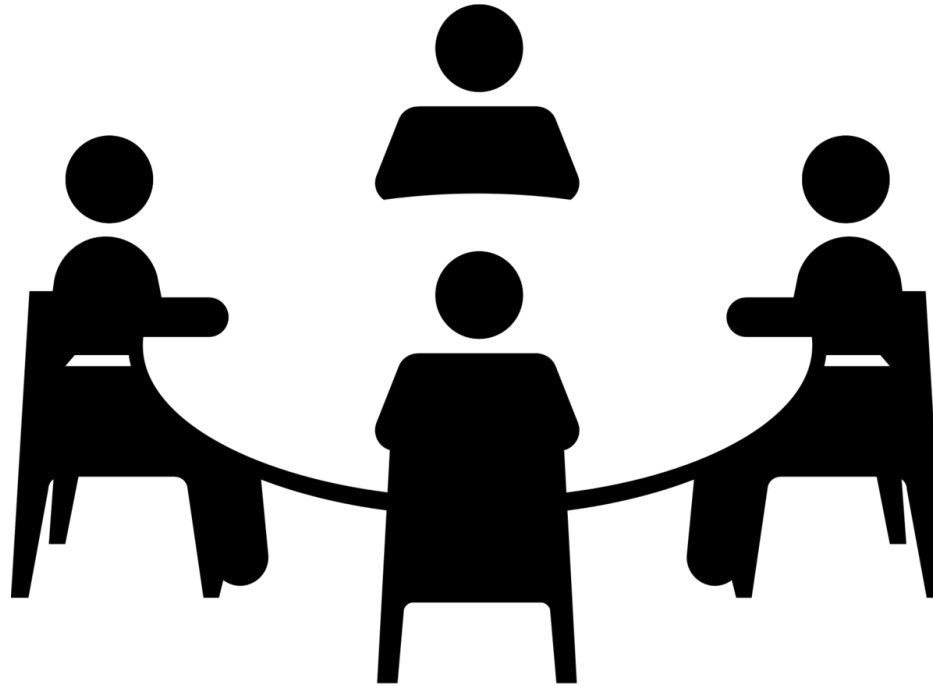
*What is computational thinking?*

*How can it be assessed?*

*Is it good for everyone?*



# Group Activity 1





## Activity 2

*How does CT relate to programming?*

*How does CT relate to other subjects?*

*Do you think CT best taught or learned?*

*How will you assess CT?*







What are Denning's views?

What are Wing's views?

What is Computational Thinking?

How can it be assessed?

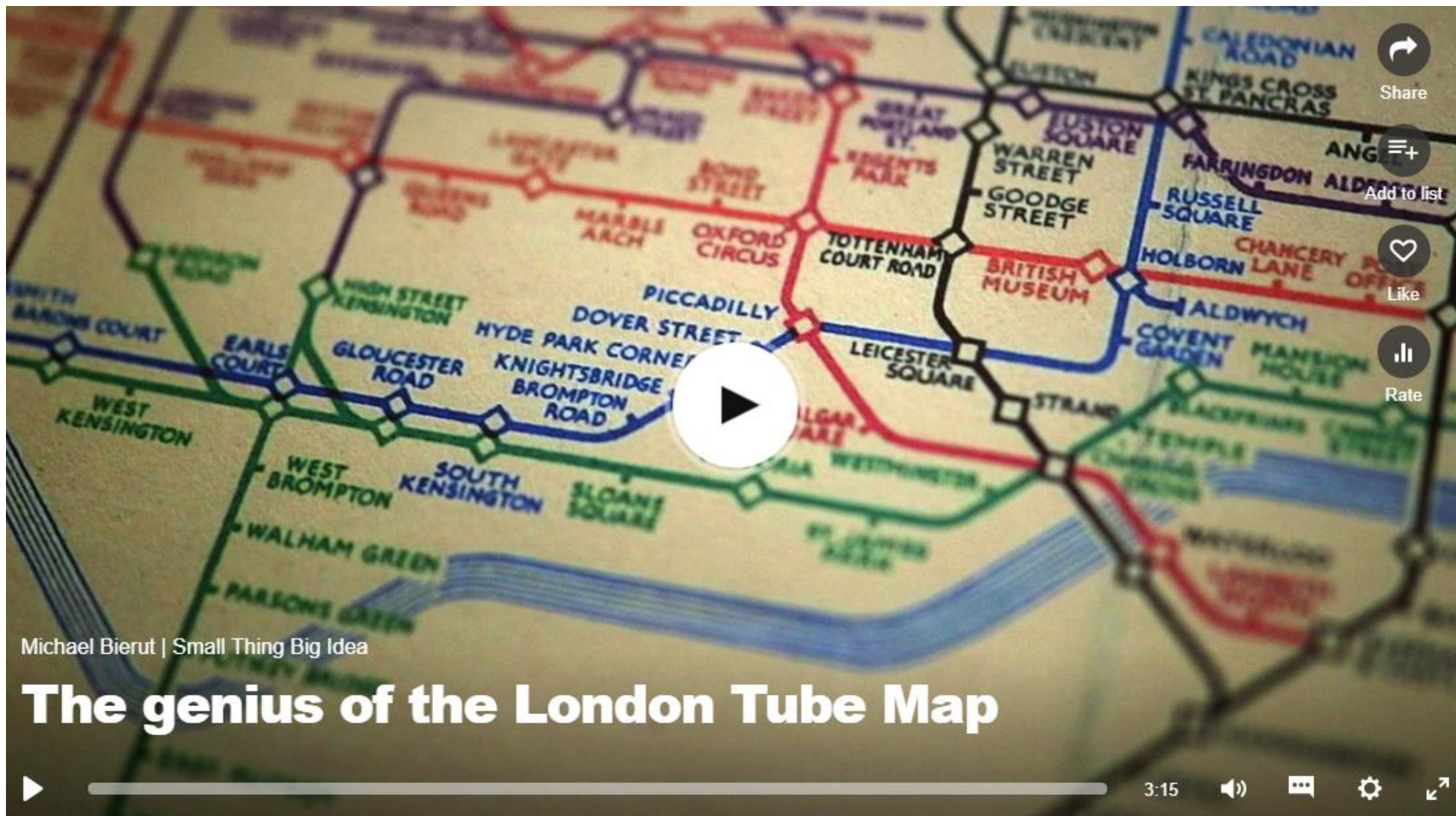
Is computational thinking good for everyone?

Should CT be  
taught?



Should CT be  
learned?

CT vs. programming?



Michael Bierut | Small Thing Big Idea

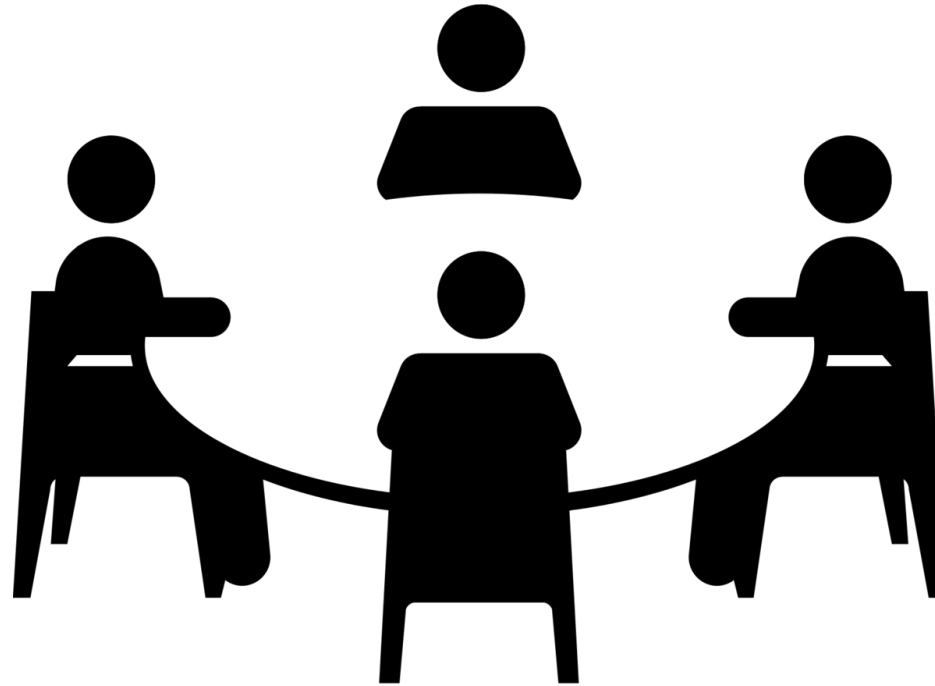
## The genius of the London Tube Map

[https://www.ted.com/talks/michael\\_bierut\\_the\\_genius\\_of\\_the\\_london\\_tube\\_map/transcript?language=en](https://www.ted.com/talks/michael_bierut_the_genius_of_the_london_tube_map/transcript?language=en)

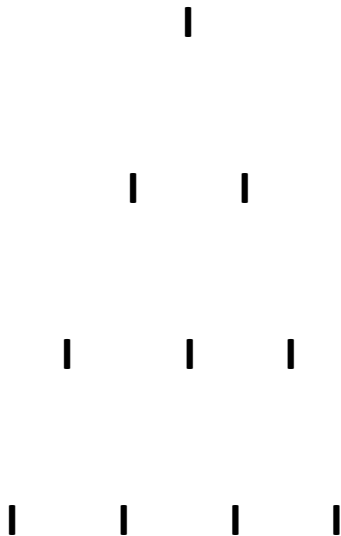
# Part 3

## Further CT Activities

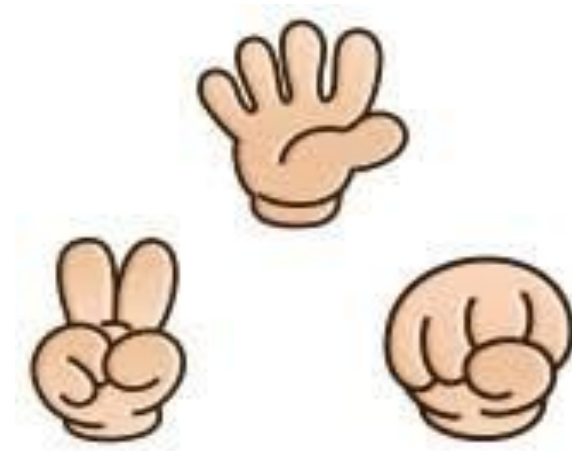
# Group Activity



# Further CT Activities



**2 PLAYERS - REMOVING STICKS from ONE ROW only  
in TURN  
to leave YOUR  
OPPONENT WITH the LAST ONE**



**ROCK, PAPER, SCISSORS**



Which CT Pillars were used?

How did I test my solution?

Could I make algorithms more efficient?

Were skills involved in CT enhanced?

Did I produce functional code?

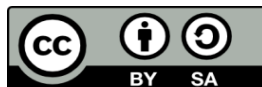


How did I solve?





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