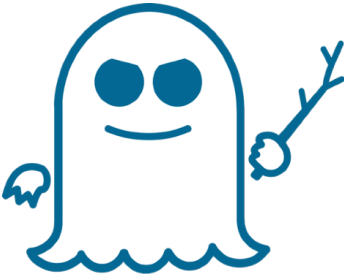


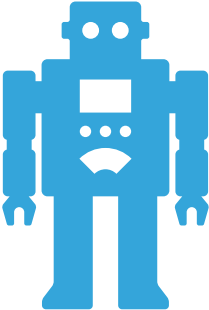


SPECTRE: SPECTACULAR EXERCUTION

3

6





























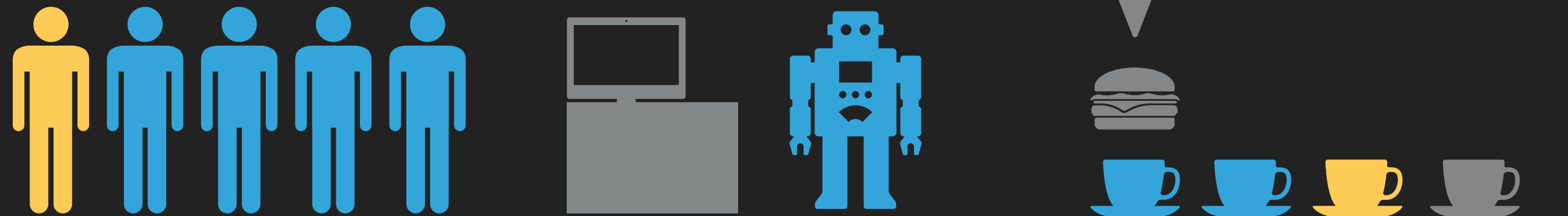
The CPU can improve the coffee machine utilisation by
speculatively brewing the coffee for 


This is very similar to the effect seen in Meltdown.

► In the **Meltdown** attack the CPU knows the next instruction (order) and asynchronously checks the permissions

► In Spectre the CPU guesses the next instructions based on heuristics (brew coffee without knowing the order)

SPECTRE: SPECULATIVE EXECUTION

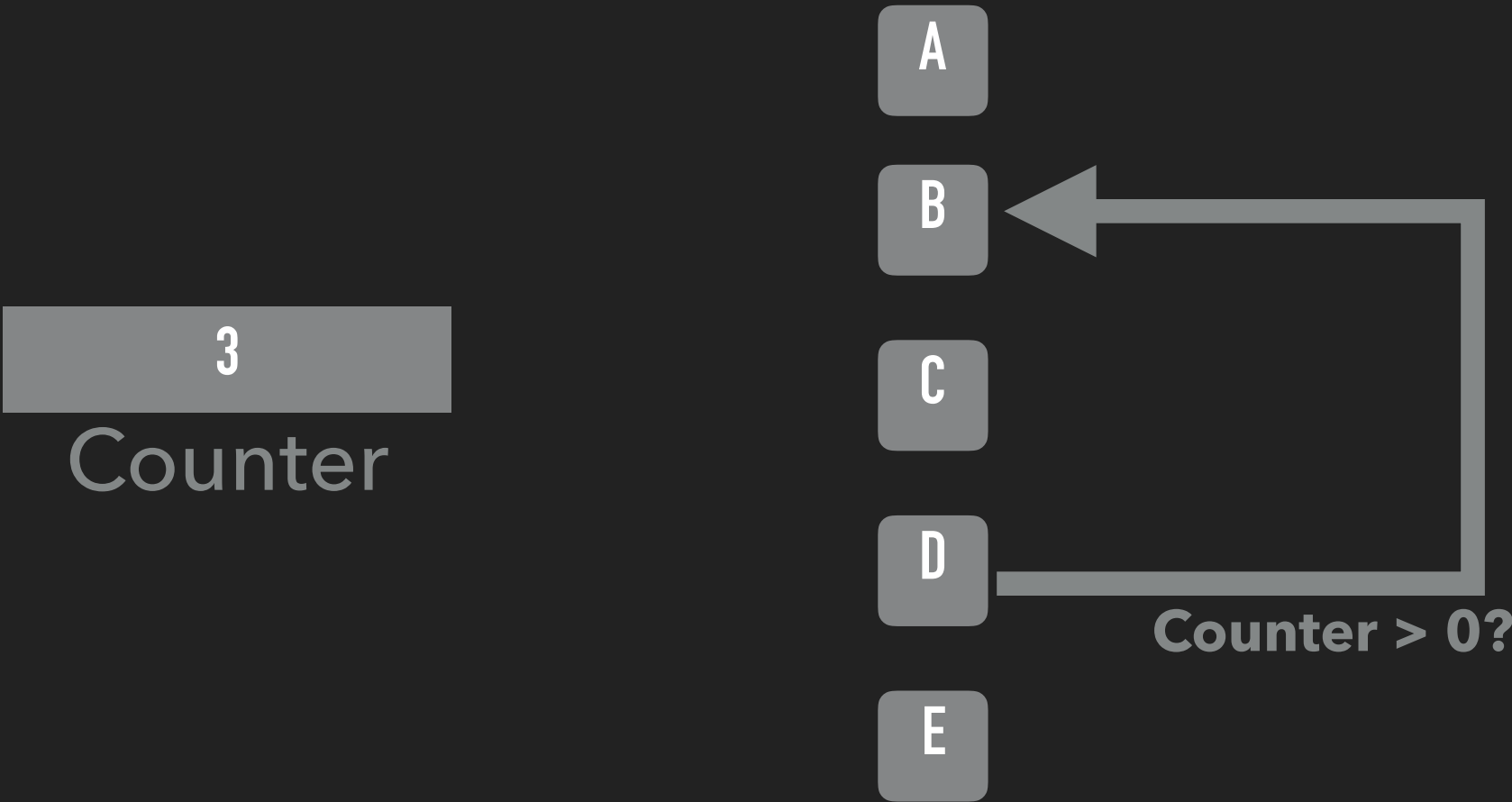


The CPU can improve the coffee machine utilisation by *speculatively* brewing the coffee for 

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SPECTRE: SPECULATIVE EXECUTION



COUNTER

A B ... E

A



Some variable used in branch

Instructions

Currently active instruction

Conditional branch