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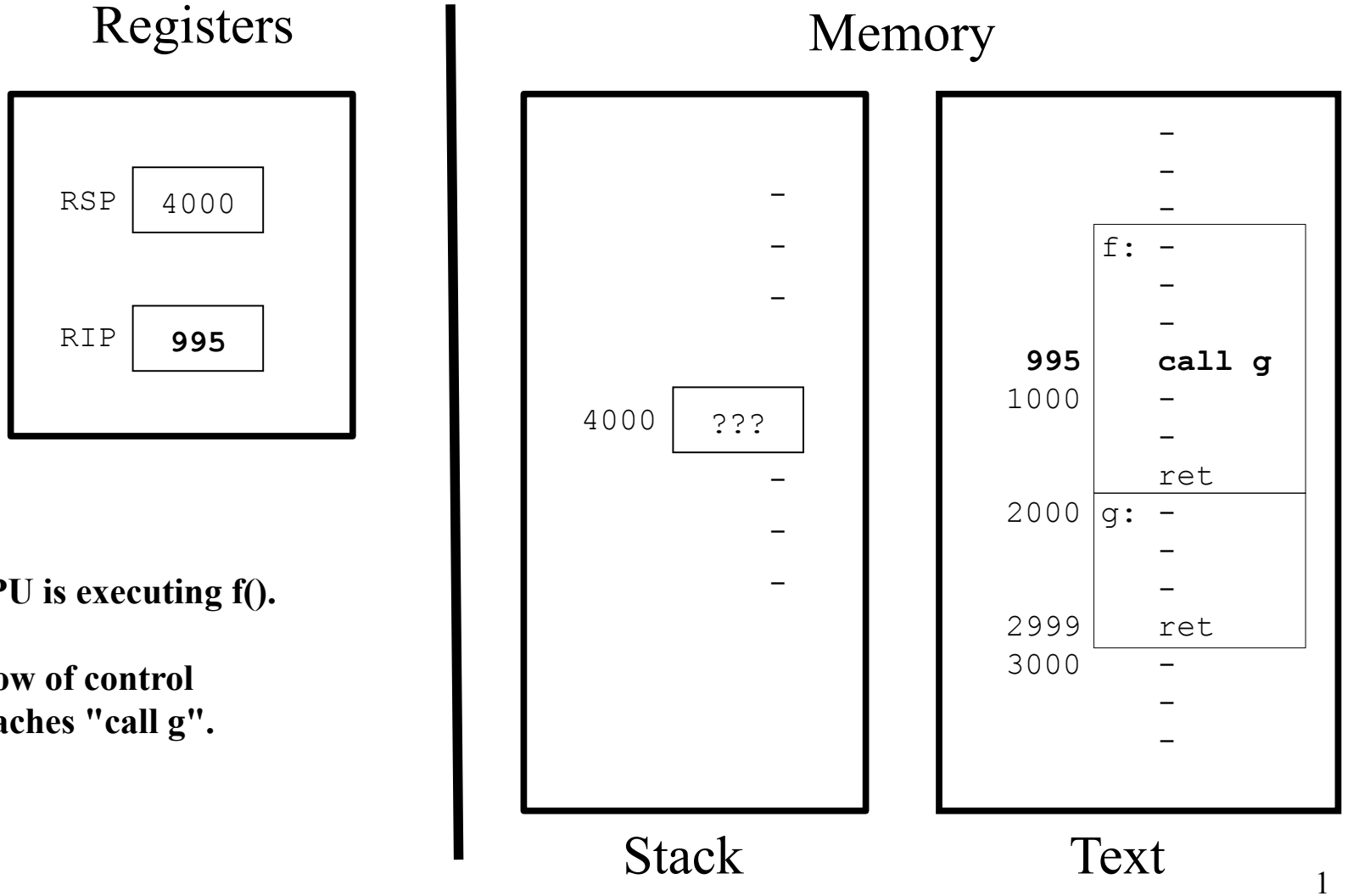
Trace of an Assembly Language Function Call



CPU is executing f().

Flow of control reaches "call g".

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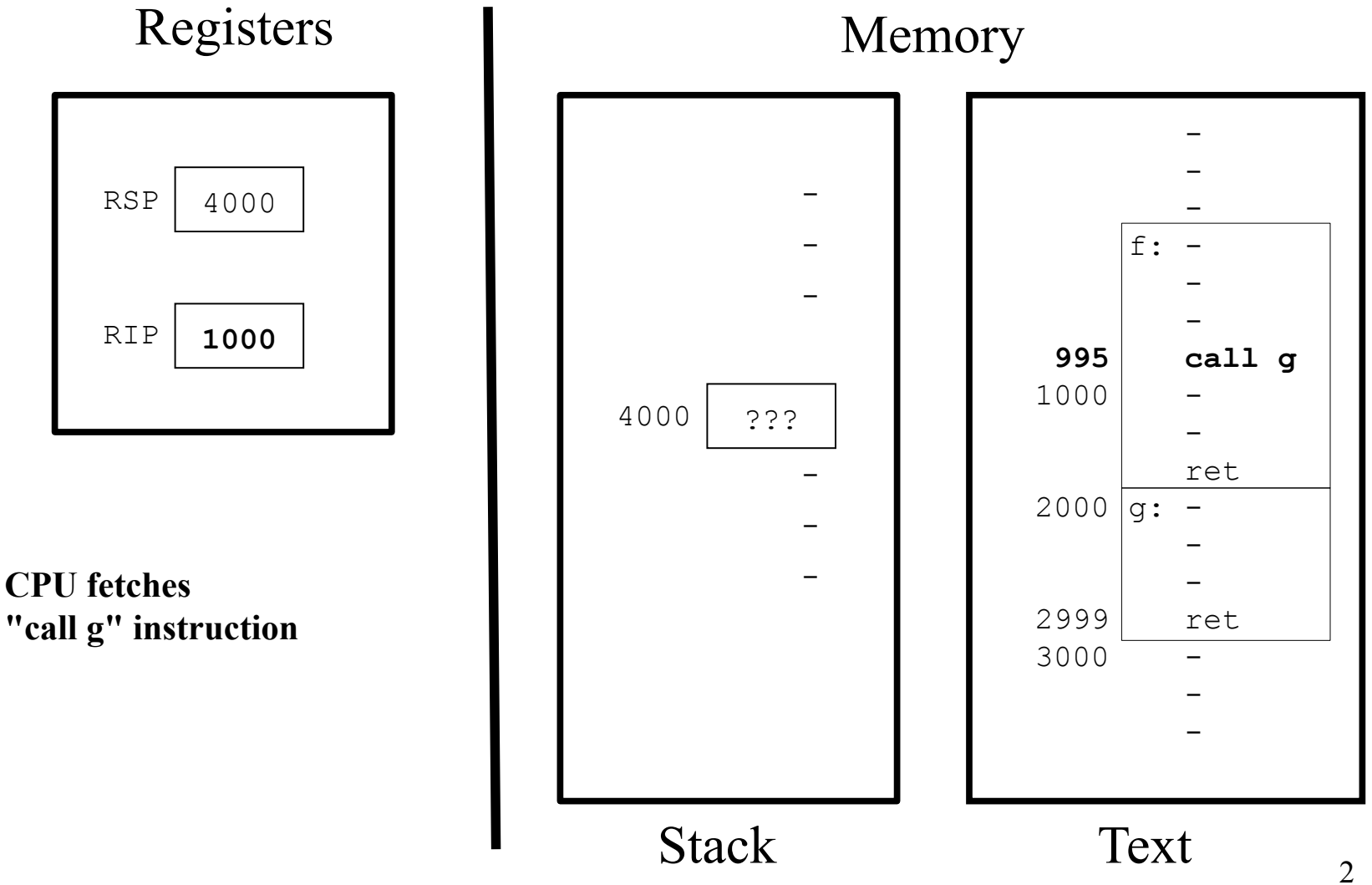

CPU fetches "call g" instruction

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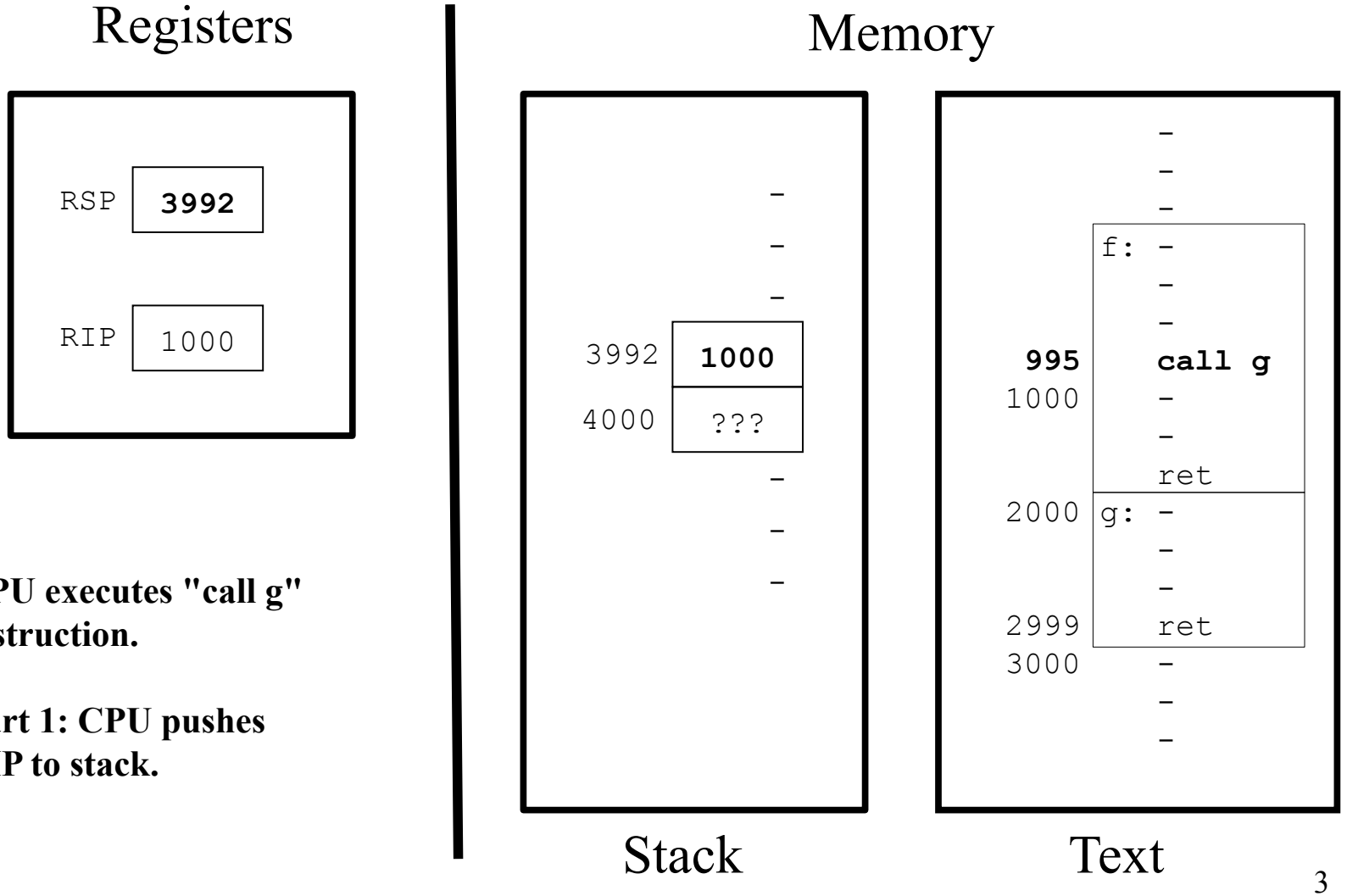

CPU executes "call g" instruction.

Part 1: CPU pushes RIP to stack.

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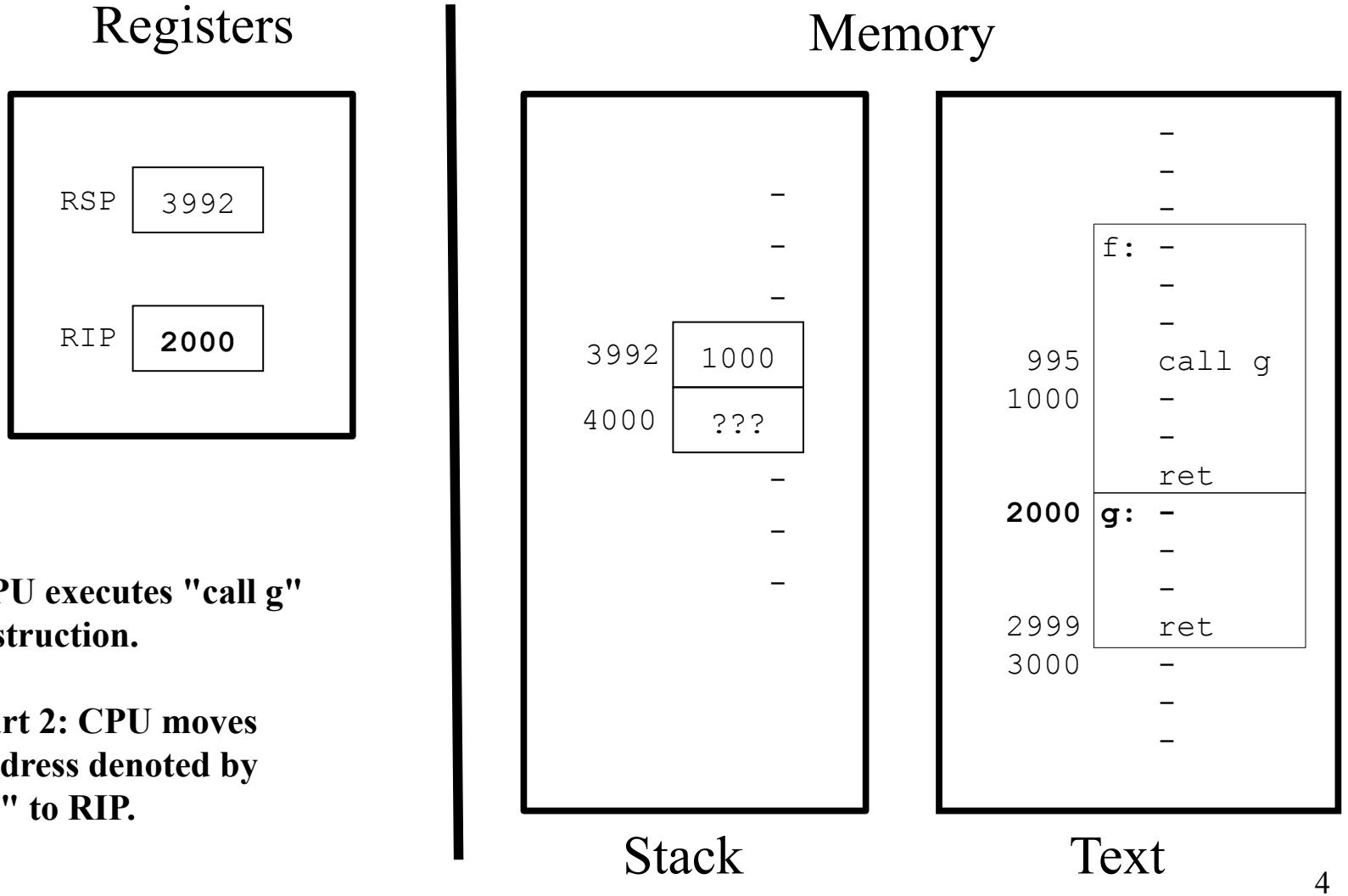

CPU executes "call g" instruction.

Part 2: CPU moves address denoted by "g" to RIP.

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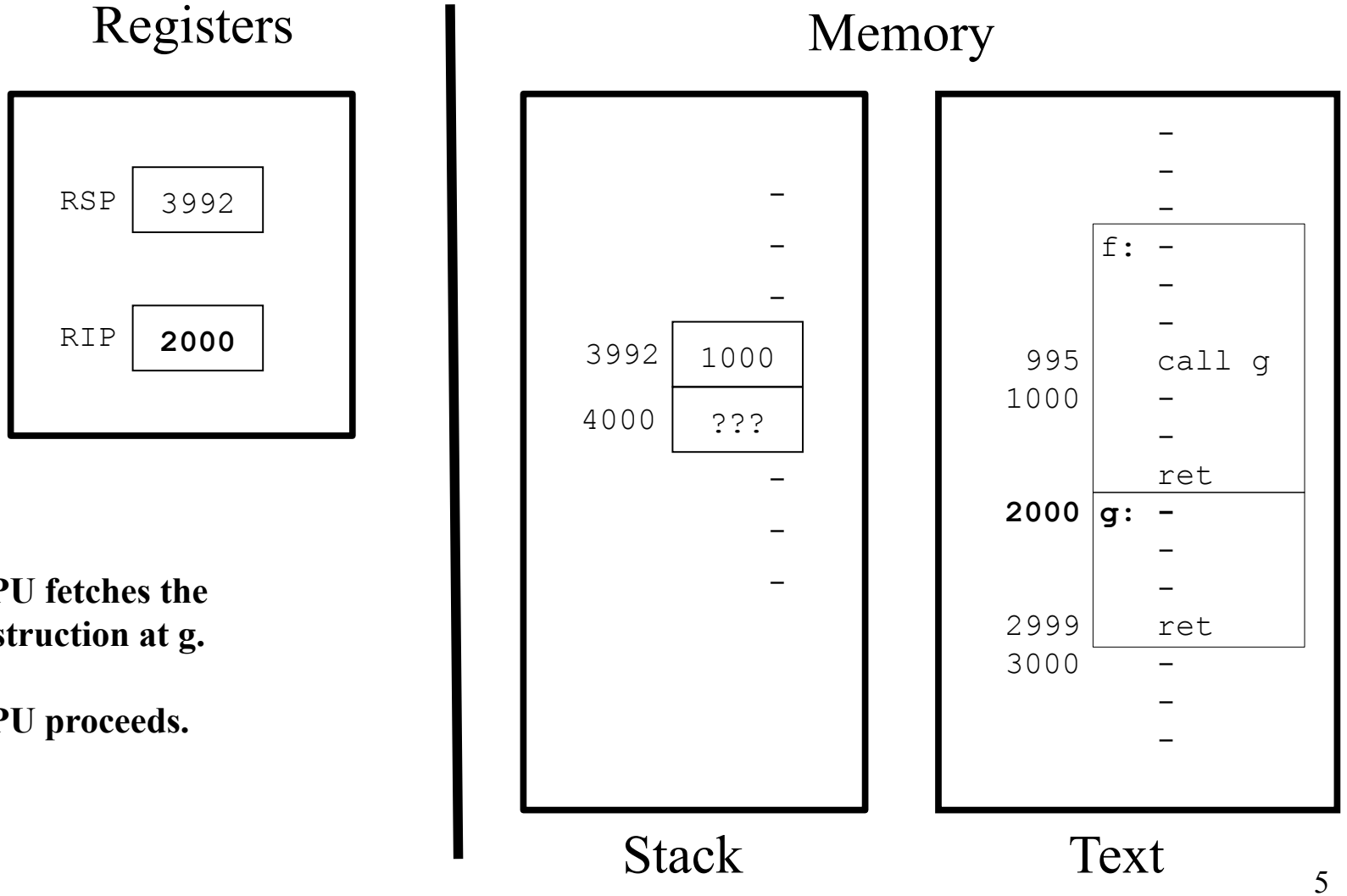

CPU fetches the instruction at g.

CPU proceeds.

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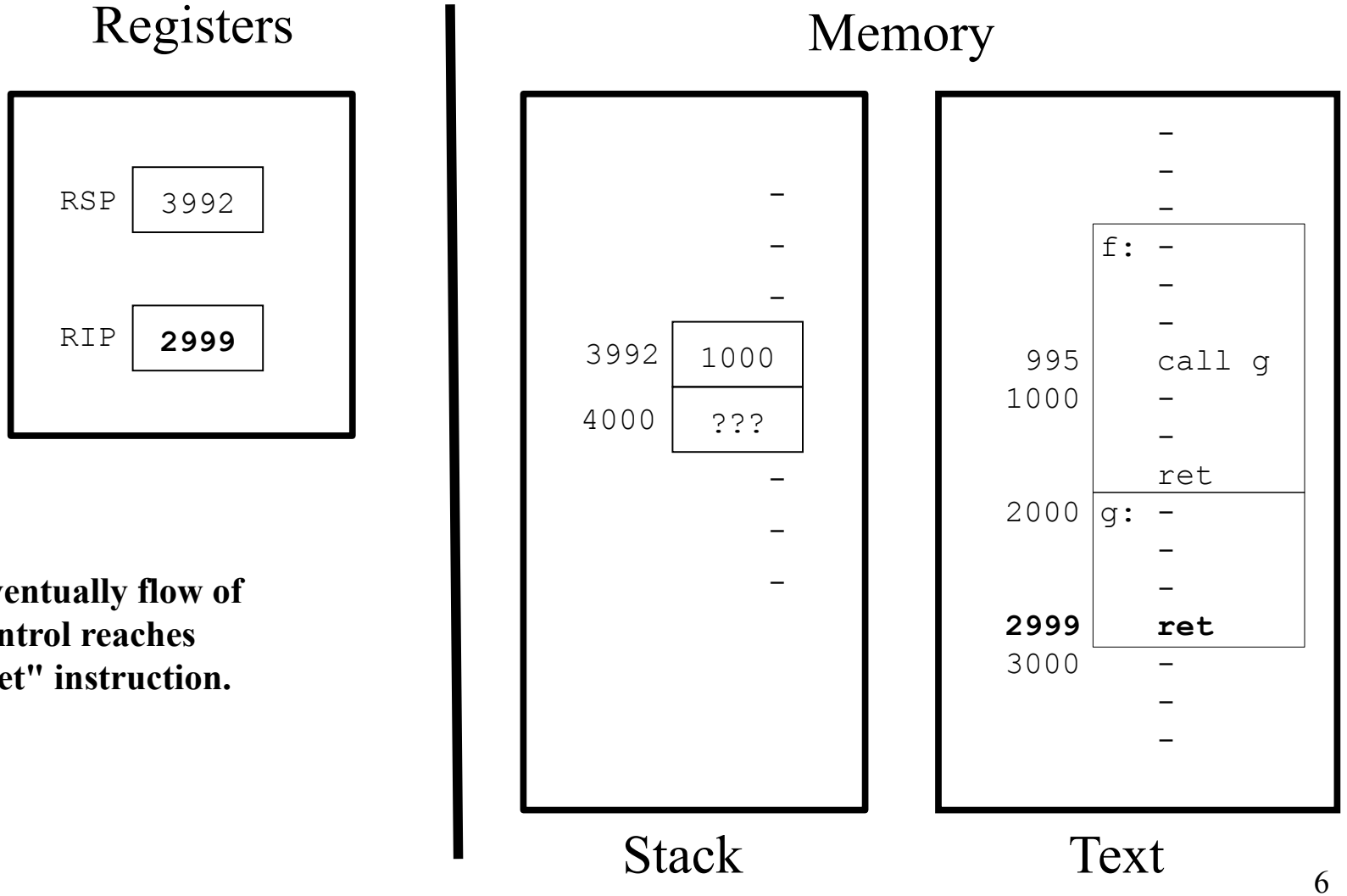

Eventually flow of control reaches "ret" instruction.

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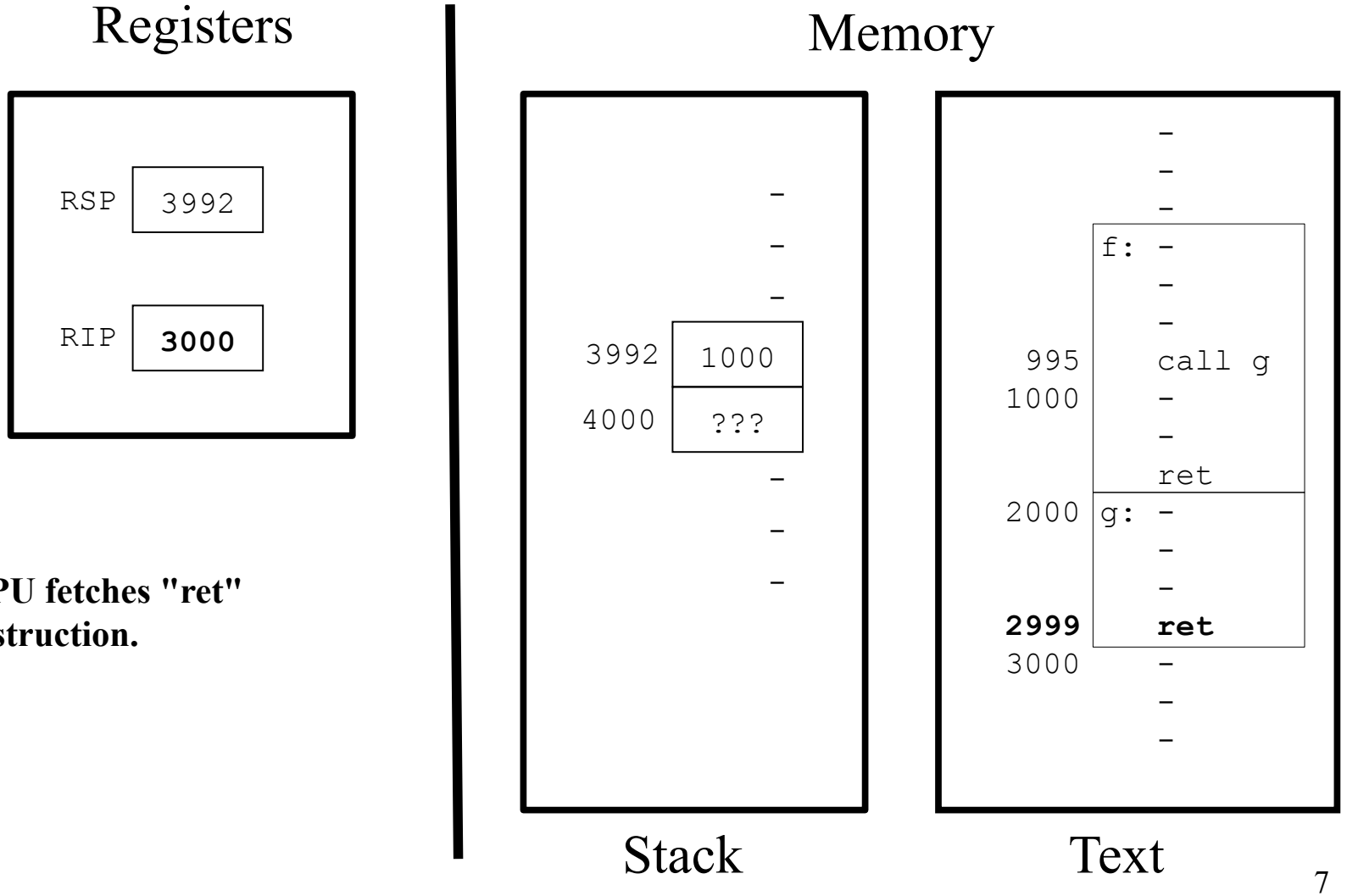

CPU fetches "ret" instruction.

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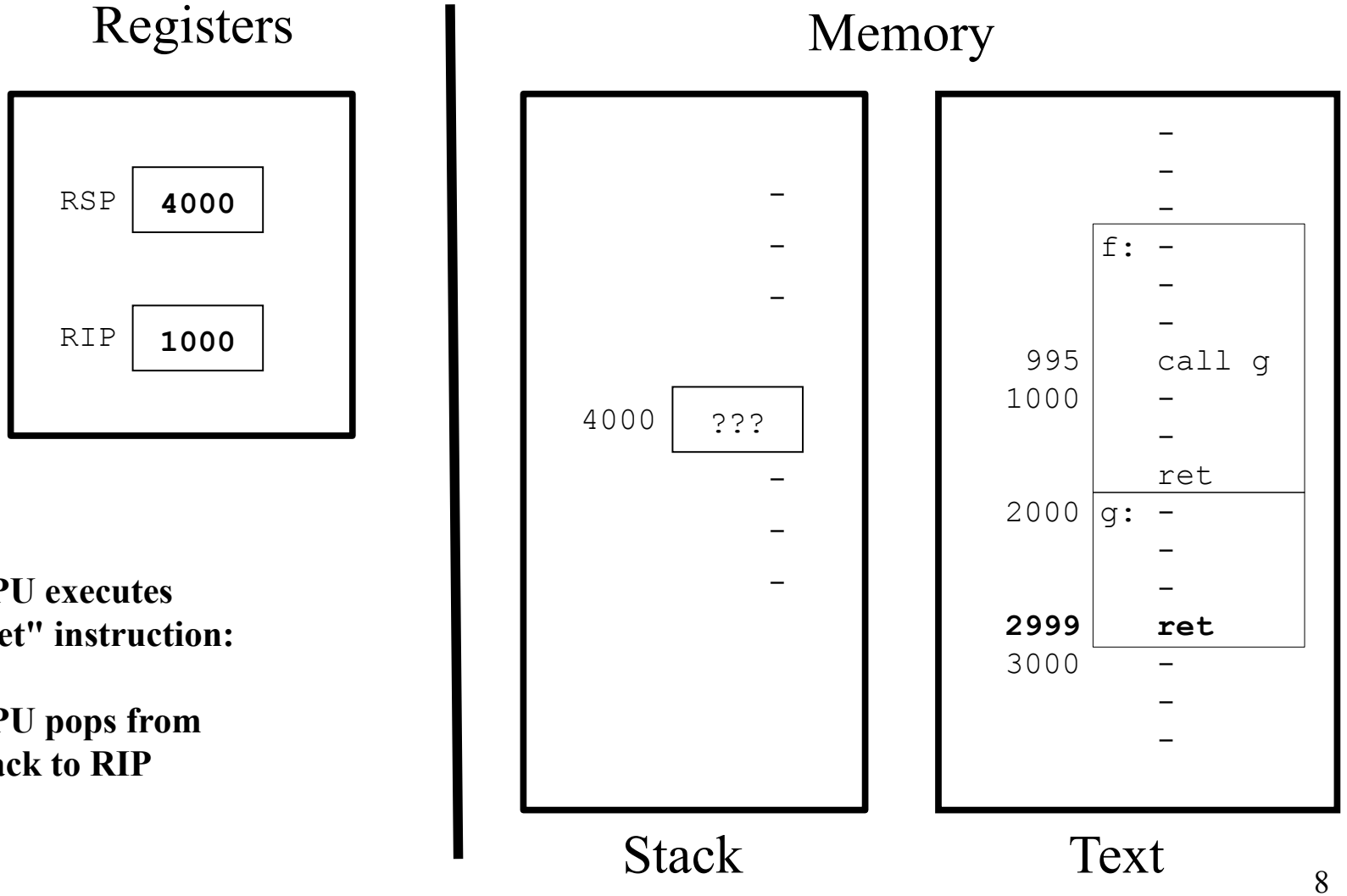

CPU executes "ret" instruction:

CPU pops from stack to RIP

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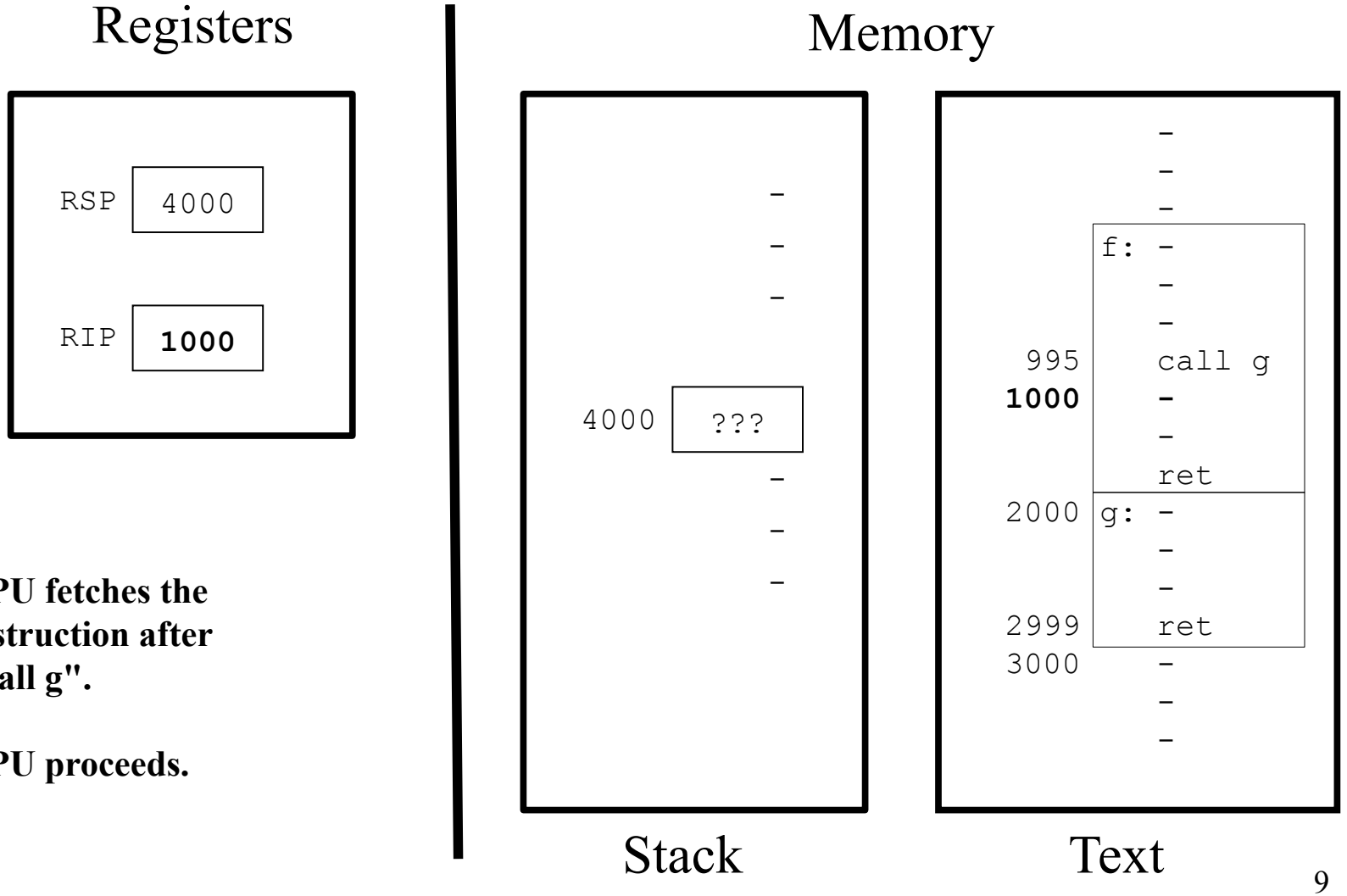

CPU fetches the instruction after "call g".

CPU proceeds.