# Paper Review: Program sketching

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Answer 1: Sketch uses input/output examples as behavioral constraints and a partial program, a sketch, as structural constraints. To search the program space, it generates candidate implementations from examples and then uses bounded model checker to new counterexamples.

Answer 2: Sketch can express any program with primitive "int" holes, and preserves the partial sketch. Brahma can not express loops and is limited to chosen n components. However, it can figure out the structure/order of the components. SyGuS is the most expressive, with Brahma being the least expressive.

Answer 3: it can be defined as $\langle \sigma, \{\} \rangle$, assigns the set of valid controls to empty set.

Answer 4: A formula $\wedge(x_i \vee c)$ where $x_i \in x$, is dependant on all input examples and will require looking at all $x_i$ points before it can generate satisfiability.