

Cognitive Operations in Use

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Abstract

As a programmer is solving a problem, a number of conscious and unconscious cognitive operations are being performed. Problem-solving is a gradual and cyclic activity; as the mind is adjusting the task to its schemas formed by its previous experiences, the programmer gets closer and closer to understanding and defining the task. The primary cognitive operations the programmer uses to set up refining models are: linguistic abstraction, analogy, algorithmic abstraction, decomposition-supercomposition, conversion, intuition, and variation. In our previous articles we have described these cognitive tools, and now we will examine their operation.

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