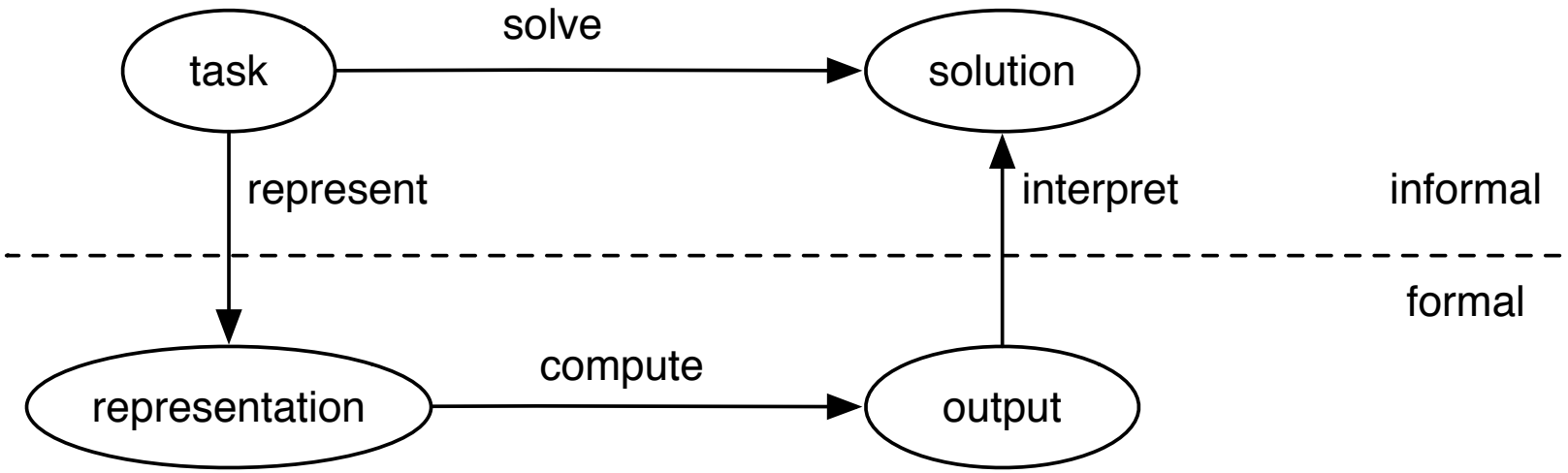
Representations



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- able to be acquired from people, data and past experiences.

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- Much work in AI is motivated by common-sense reasoning. The computer needs to make common-sense conclusions about the unstated assumptions.

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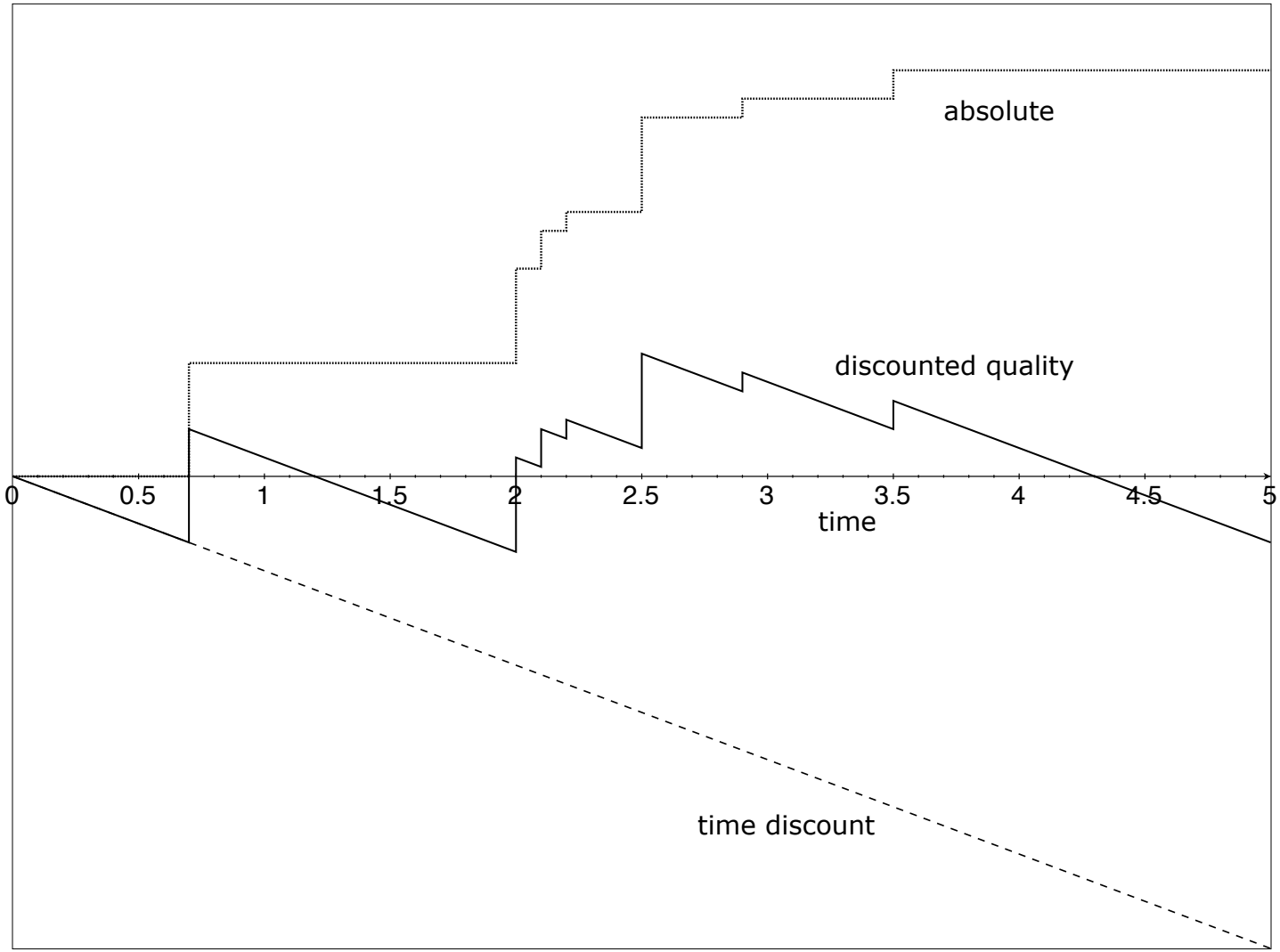
An agent isn't just concerned about finding the right answer, but about acquiring the appropriate information, and computing it in a timely manner.

Solution quality and computation time



Choosing a Representation Language

We need to represent a problem to solve it on a computer.

$$\left[\begin{array}{l} \text{problem} \\ \quad \rightarrow \text{ specification of problem} \\ \quad\quad \rightarrow \text{ appropriate computation} \end{array}\right]$$

Example representation languages:

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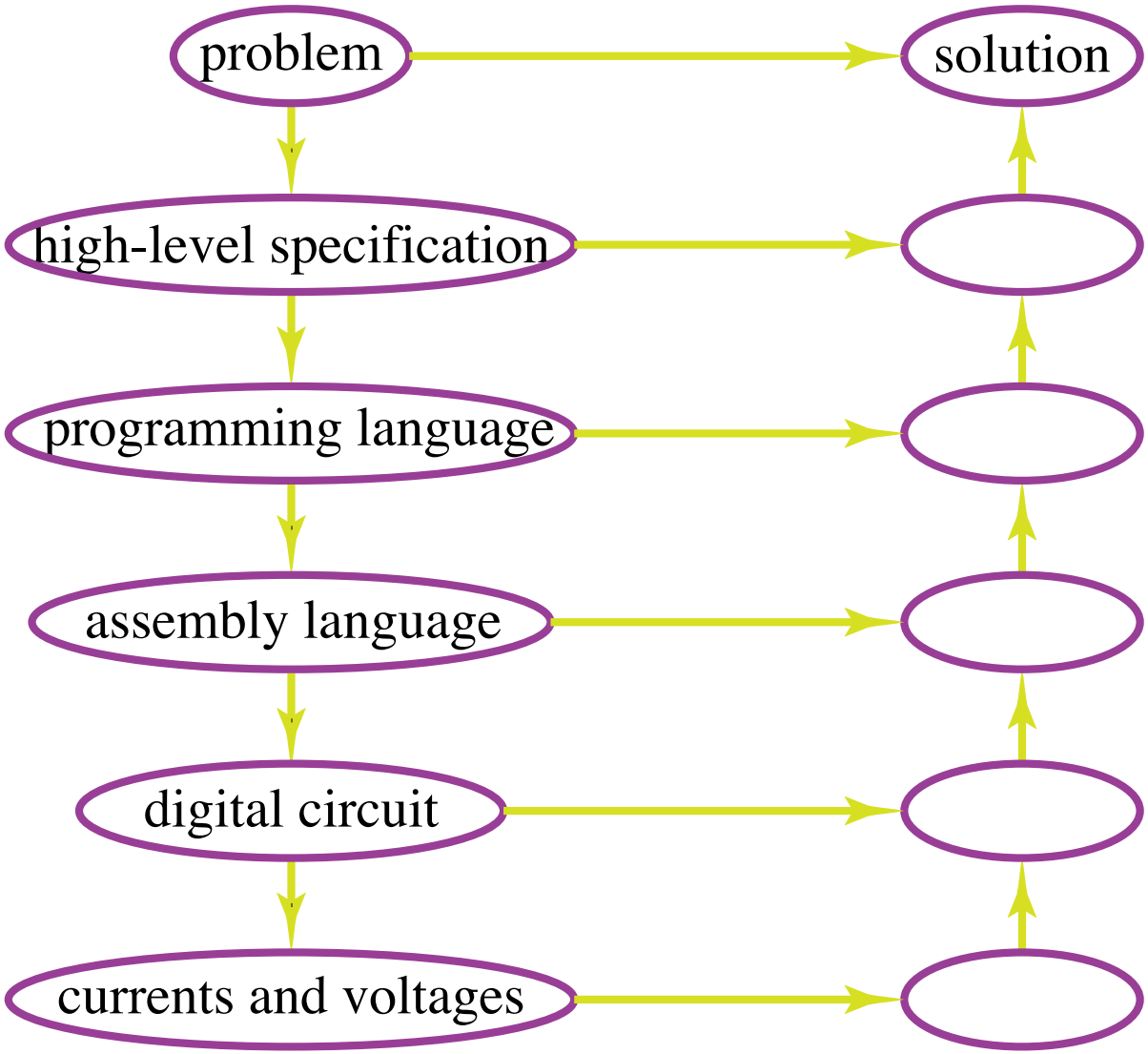
Example representation languages: Machine Language, C++, Java, Prolog, English

Hierarchy of representations



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- A physical symbol system has the necessary and sufficient means for general intelligent action.

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The knowledge level is about the external world to the agent. The symbol level is about what symbols an agent uses to implement the knowledge level.

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- How can an agent acquire the information from data, sensing, experience, or other agents?

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It is sometime possible to use multiple levels of abstraction.

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- Online computation is the computation that's done by an agent between receiving information and acting.