

Chapter 1: Defining Artificial Intelligence

Top Ten Salient Sentence Strings

1. Is the ability to select that particular music from the list an equivalent creative act to recording that selection? Surely it's not the same, but perhaps these skills are equally deserving of our applause.
2. In a word, yes—but most likely in limited ways. It's possible that at some point in the future public sentiment will have shifted sufficiently to accept the idea that computers are in general superior to humans in some fairly broad classes of intellectual tasks, but this doesn't mean that machines will dominate or obsolete us, as I will explain later.
3. Now consider the question of why we think of these as separate capabilities. Bundle enough of them together in a single entity, and the result could appear to be generally intelligent, even if it doesn't do some things well (yet), such as write novels.
4. John McCarthy, a founding father of the discipline, described the process in 1955 as "that of making a machine behave in ways that would be called intelligent if a human were so behaving.
5. AI may not be a hard science in the sense of physics or chemistry, where theories and hypotheses are subject to objective confirmation, though it may ultimately get there.
6. The mystery they face is how relatively straightforward and uniform biological units (neurons), through their interconnections, could possibly account for such varied feats as storing memories, processing visual information, controlling our bodies, producing emotions, guiding our behavior, and generating our qualitative sense of self. As inexplicable as it seems, this appears to be the case.
7. Sometimes the best man or woman for the job may be a machine.
8. In fact, learning can be viewed as a process of performing temporally sequential generalizations, by taking prior experience into account in future analyses, just as reasoning by analogy is a matter of using knowledge from one domain as a novel context with which to generalize about another.
9. Which leads me to my personal view of the meaning of AI. The essence of AI—indeed, the essence of intelligence—is the ability to make appropriate generalizations in a timely fashion based on limited data.
10. Another marker of intelligence is how gracefully we fail.