Assignment 1- AI

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Philosophy of Artificial Intelligence

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1   Introduction

The philosophy of artificial intelligence is a branch of the philosophy of technology that explores artificial intelligence and its implications for knowledge and understanding of intelligence,ethics,consciousness,epistemology and free will.The technology is concerned with the creation of artificial animal or artificial people so the discipline is of considerable interest to philosophers.
The philosophy of artificial intelligence attempts to answer following questions:

- Can a machine act intelligently?

- Can it solve any problem that a person would solve by thinking?

- Are human intelligence and machine intelligence the same?

- Is the human brain essentially a computer?

- Can a machine have a mind,mental states and consciousness in the same sense that a human being can? Can it feel how things are?

The scientific answers to these questions depend on the definition of "Intelligence" and "Consciousness" and exactly which "Machines" are under discussion.Below are some important propositions in the philosophy of AI:
–Turing's "polite convention": If a machine behaves as intelligently as a human being, then it is as intelligent as a human being.

–The Dartmouth proposal: "Every aspect of learning or any other feature of intelligence can be so precisely described that a machine can be made to simulate it."
–Allen Newell and Herbert A. Simon's physical symbol system hypothesis: "A physical symbol system has the necessary and sufficient means of general intelligent action."
–John Searle's strong AI hypothesis: "The appropriately programmed computer with the right inputs and outputs would thereby have a mind in exactly the same sense human beings have minds."
–Hobbes' mechanism: "For 'reason' ... is nothing but 'reckoning,' that is adding and subtracting, of the consequences of general names agreed upon for the 'marking' and 'signifying' of our thoughts..."

2 Can a Machine display Intelligence?

Is it possible to create a machine that can solve all the problems humans solve using their intelligence? Another question arises with this "Whether a machine lies under the category of being intelligent ? There had been so many argument on this.These arguments show that human thinking does not consist (solely) of high level symbol manipulation. They do not show that artificial intelligence is impossible, only that more than symbol processing is required.

3 Can a machine have a mind, consciousness, and mental states?

According to Searle:
Strong AI- A physical symbol system can have a mind and mental states.
Weak AI- A physical symbol system can act intelligently.
Searle introduced the terms to isolate strong AI from weak AI so he could focus on what he thought was the more interesting and debatable issue. He argued that even if we assume that we had a computer program that acted exactly like a human mind, there would still be a difficult philosophical question that needed to be answered.
There had been many Arguments that a computer cannot have a mind and mental states.Here Searle through his experiment concluded that actual mental states and consciousness require "actual physical-chemical properties of actual human brains".

4 Is thinking a kind of computation?

The computational theory of mind or "computationalism" claims that the relationship between mind and brain is similar (if not identical) to the relationship between a running program and a computer.
If the human brain is a kind of computer then computers can be both intelligent and conscious, answering both the practical and philosophical questions of AI.Some versions of computationalism make the claim that:

- Reasoning is nothing but reckoning.- "Our intelligence derives from a form of calculation, similar to arithmetic."

- Mental states are just implementations of (the right) computer programs.

Some scholars argue that the AI community's dismissal of philosophy is detrimental. In the Stanford Encyclopedia of Philosophy, some philosophers argue that the role of philosophy in AI is underappreciated.[2] Physicist David Deutsch argues that without an understanding of philosophy or its concepts, AI development would suffer from a lack of progress