IP2

Question/Prompt	My Answer	ChatGPT Answer
Who were these people, and how did/does each contribute to the development of artificial intelligence? How did/does each think “intelligence” could be identified? Alan Matheson Turing (1912-1954): Biography; Work: Computing Machinery and Intelligence (Turing, 1950). John McCarthy (1927-2011): Homepage, What is Artificial Intelligence (McCarthy, 2007). Herb Simon (1916-2001): Meet the Nobel Laureates in Economics: Do we understand human behaviour (UBS, n.d.). Marvin Minsky (1927-2016): AI pioneer Marvin Minsky dies aged 88. (BBC News, 2016). Timnit Gebru (1982): We read the paper that forced Timnit Gebru out of Google. Here’s what it says (Hao, 2020).	Alan Turing was an influential and foundational researcher of computing and artificial intelligence. In Turing’s widely-cited work, he finds that defining intelligence is futile and that the ability to think might be conceptualized as a perception based on our experienced interactions; can we distinguish responses between human and a machine. https://www.science.org/doi/10.1126/science.adq9356 https://courses.cs.umbc.edu/471/papers/turing.pdf John McCarthy was a Stanford professor with a keen interest in programming who perhaps is best known for coining the term “artificial intelligence” in 1955. He is also the inventor of the programming language LISP, Stanford’s AI Lab, and worked closely on the concept of time-sharing which is more widely recognized as “multiprocessing” in our computers today. He believes AI is the science and engineering of thinking machines, but defining machine intelligence is still dependent on our understanding of human intelligence. https://www-formal.stanford.edu/jmc/history/dartmouth/dartmouth.html https://www.britannica.com/technology/time-sharing https://computerhistory.org/profile/john-mccarthy/ Herb Simon was an American economist and mathematician who placed a high value on data-informed decision-making. His creation of the “Logic Theorist” is accepted as one of the first artificial intelligence programs as it imitated human problem-solving abilities. Simon’s identification of intelligence could be interpreted as the ability to recognize patterns from information that is processed and stored. https://taylorandfrancis.com/knowledge/Engineering_and_technology/Artificial_intelligence/Logic_Theorist/#:~:text=A%20logic%20theorist%20is%20an,skills%20of%20a%20human%20being. https://thedecisionlab.com/thinkers/computer-science/herbert-simon https://www.cmu.edu/50/founder-stories/story-simon.html Marvin Minsky was the co-founder of MIT’s AI lab along with John McCarthy. He believed artificial intelligence was any intelligence used	

	for a task that would be needed by a human for the same task. Stonier, T. (1992). The Evolution of Machine Intelligence. In: Beyond Information. Springer, London. https://doi.org/10.1007/978-1-4471-1835-0_6 https://www.britannica.com/biography/Marvin-Minsky Dr. Timnit Gebru is the director of the Distributed AI Research centre. She has worked throughout her career to ensure accountability within AI systems and large language models. In a 2025 interview she states that “artificial intelligence”is hard to define because it is not static. She believes AI might be defined by whatever the stakeholder claims it to be based on the technology being used/proposed. https://www.youtube.com/watch?v=73_AeBTvLd8 https://www.dair-institute.org/team/	
How do “machine (programming) languages” differ from human (natural) ones? (~100 words).	Human language and machine languages are both communication tools that are highly structured. My research and experience leads me to the belief that the main difference is the way human language can be used. When writing, humans “play” with the syntax and semantics of words to subvert set rules and evolve language and create new meanings. Machine languages have traditionally been built in the binary - the instructions either work or don’t work. Due to zero error tolerance, machine languages cannot evolve in the way human languages can. It is interesting to note the evolution of neural networks dating back to the 1950s and how current research looks to create machine languages with more abstract capabilities. https://medium.com/@anaharris/human-languages-vs-programming-languages-c89410f13252 https://red.mnstate.edu/cgi/viewcontent.cgi?article=1004&context=sac https://academic.oup.com/nsr/article/11/4/nwad317/7505147	
How does “machine (artificial) intelligence” differ from the human version? (~100 words).	Defining intelligence for humans is difficult, which complicates differentiating it from artificial intelligence. A cognitive approach to human intelligence might define intelligence as our mental representations and ability to process and communicate based on those representations. Chollet (2019) offers a deeper consideration of human intelligence that suggests it is the efficiency of learning based on	

	prior knowledge, our experiences, and the ability to generalize. Artificial intelligence seeks to mimic human cognitive abilities, relying on data that comes from humans. In this way, it cannot reproduce positive intellectual elements of creativity or perception. However, on the other hand, the application of machine intelligence is less impacted by factors like fatigue and stress which affect human accuracy. https://online.hull.ac.uk/blog/what-is-artificial-intelligence-and-how-is-it-different-from-human-intelligence https://www.britannica.com/science/human-intelligence-psychology	
How does “machine learning” differ from human learning? (~100 words)	Learning as defined by the acquisition of new knowledge, skills, or understanding, does not differ from human to machine. However, the process of learning does. As of now, machines are dependent on humans to train them using data-sets. Humans, on the other hand, learn through various ways, both consciously and unconsciously as they interact with their environments and receive feedback from them. In this way, although a machine may learn faster than a human, it is limited to the availability of the data. https://www.vox.com/recode/2020/2/18/21121286/algorithms-bias-discrimination-facial-recognition-transparency https://en.wikipedia.org/wiki/Learning#:~:text=Learning%20is%20the%20process%20of,that%20which%20cannot%20be%20retrieved.	

And for your LAST challenge, a version of the Turing Test: how do YOUR answers to these questions differ from what a machine could generate? make sure you reference the specific differences between your answers and ChatGPT's. (~200 words)
For this last question, think about whether your responses only reported information derived from online searches? In your responses to these questions, what transformative kinds of thinking and/or reasoning processes have you engaged in order to formulate your answers, that exceed or differ from what artificial intelligence can do? Do you think there are ANY distinguishing features that would identify your responses as having been formulated by a human, and not a machine, intelligence? What and why?

- In my opinion, it is relatively obvious when a response is directly copied from a large language model like ChatGPT. To compare, let’s look at similarities between my responses and the generative responses. When looking at the biography entries, we seem to both mention key places of employment and/or achievements. In the longer form response questions, we have some similar ideas. We both reference “syntax” in our answer about language and also do our best to highlight the nuanced ways humans use language to differentiate them from machines. In the second prompt about intelligence, we both reference ethics and creativity as key differences. However, ChatGPT’s writing seems overall more concise and polished than my responses. Since I knew I would be compared, I tried to take extra steps to differentiate myself from what I thought the large language model would do. I’m not sure I would define this as truly transformative, but I did two specific things to create this difference. First, I tried to weave my opinion and understanding of the sources

into my responses with a sort-of professional informality (e.g., "*Defining intelligence for humans is difficult, which complicates differentiating it from artificial intelligence"*) that gave my writing a personality. Second, I tried using hyperlinks to creatively craft and source my responses (e.g., "*It is interesting to note the evolution of neural networks dating back to the 1950s and how current research looks to create machine languages with more abstract capabilities.*") which ChatGPT does not explicitly do. Overall, the high quality of summative writing by ChatGPT and the slight personality of my writing are key differences in this exploration of artificial and human intelligence.

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AI Artist Statement

In this IP, ChatGPT was only used to order my reference list above and to create the appropriately labelled responses for direct comparison. This includes the specific sections of my assignment where generative AI was directly integrated involved descriptions of Alan Turing, John McCarthy, Herb Simon, and Marvin Minsky, as well as my reflections comparing human and machine languages, intelligence, learning. Below is the original conversation with prompts and answers.