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A- Deep blue is the name of a chess playing system that defeated the world chess champion in 1997. It was not the first system to play a grandmaster but it was the first one to win a game and also a match against one. There were predecessors to deep blue that came very close to winning but were not able to. There were several advances that made this feat possible. The first one is the use of specialized hardware to do search and parallelizing the search to be able to evaluate gigantic number of states in the game. This advancement is not exclusively helpful to chess and can be used in other problems provided that the designed chips are built in line with what the problem entails. The other advancement was the use of chess grandmaster opening database and endgame databases in which the best moves in those databases had been identified and summarized. This might be exclusive to chess because opening and endgame is meaningful in the context of chess but there might be other problems that can enjoy parallels drawn with chess. Also there were clever use of clever search algorithms that had been used previously in the predecessors of deep blue.

B- AlphaZero is program created by DeepMind to leverage deep neural networks and reinforcement learning in challenging games like chess and go. AlphaZero searches just 60,000 positions per second in chess, compared with 60 million for Stockfish (a popular chess engine based on traditional game tree search). AlphaZero may compensate for the lower number of evaluations by using its deep neural network to focus much more selectively on the most promising variations arguably a more humanlike approach to searching. This ability of AlphaZero comes from the power of its deep neural network trained on many many games that the model has played with itself and learnt the most fundamental principles of the game by itself.