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**Assessment Cover Page**

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| *Module Title* | AI Concepts to Implementation |
| *Assessment Title* | CA1 |
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**Declaration**

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I further confirm that this work has not previously been submitted for assessment by myself or someone else in CCT College Dublin or any other higher education institution.

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# Introduction

# Task 1

Artificial Intelligence (AI) has been inspired by chess for decades, sparked by the IBM’s Deep Blue program one point victory over then chess world champion Garry Kasparov in 1997. (Campbell, et al., 2002) This section will focus on two different AI strategies that have been applied to the chess engines, Leela Chess Zero (LCZero) and Stockfish.

LCZero uses neural networks to guide a Monte Carlo Tree Search.

Stockfish relies on an alpha-beta search.

*Research two Artificial Intelligence (AI) strategies that have been used to play chess. Describe the theory and concepts used within these strategies and how they relate to AI.*

# Task 2

*AI has been essential in computer games since the 1960s. Provide an example of two AI strategies that are used in modern games. You should identify the algorithm being used, provide a high-level description of the algorithm and provide an example of a game where this algorithm has been implemented.*

# Task 3

*SONY has developed a robot puppy named AIBO. You can find information about this robot at https://us.aibo.com/. a) Discuss the AI characteristics that you think the AIBO exhibits. [15 marks] b) Discuss AI characteristics that you think it still lacks. [15 marks]*