

Introduction to AI,

Test 20-OCT-2021. Class Q4/0007, 15:00-17:00

Without notes, no communication

Write the answer of each exercise on a different piece of paper.

Do not forget to put your name and coordinates (row and column).

1. (i) Briefly explain the Turing test (ii) and describe its limitations (iii) On this topic, a number of extensions have been proposed, please explain them

2. The tic-tac-toe game (3-en- raya) is played by two players, the player X and the player O, in a 3x3 board. They play alternatively. Each player puts its mark in a free position of the board, and the first that completes a row, a column, or a diagonal with its marks wins

Observe this position; the player X has to move next. Compute the game tree to find the best move for this player.

X	O	O
		X
	X	O

3. The Argentinian author Jorge Luis Borges wrote a tale entitled "*The other death*". It is composed by two stories S_1 and S_2 . and the narrator believes that a single fact has been changed from S_1 to S_2 . At the end of the tale this sentence appears

Modification is not the modification of a single fact; it is the annulment of its consequences, which have to be infinite.

(Modificar no es modificar un solo hecho; es anular sus consecuencias, que tienden a ser infinitas.)

This sentence expresses a thought about retracting a fact. Please, (i) what does it mean in the context of knowledge representation? (ii) We discussed deduction retraction in class, what KR elements does this sentence bring to your mind? (i) May you qualify the last part *es anular sus consecuencias, que tienden a ser infinitas*?

4. Imagine that you are learning to play tennis. (i) Explain the different types of learning-with respect to we have seen in class that you will employ in the process. (ii) Does there exist background knowledge (also known as common sense knowledge)? (iii) Now, Imagine that you are training a great tennis player. Possibly you will consider the points/areas where your pupil sends the balls. To analyze them, will you use some type of learning?