National University of Computer & Emerging Sciences
Artificial Intelligence (CS401)
Class Activity #1

Dated: February 01, 2016 Marks: 40
Time: 40 min. Std-ID: ____SOL_____

Question No. 1

Define Turing Test? What is it for? What are its weaknesses? How Chinese Room arguments address the observation on Turing Test? [10]

Turing Test is a test for intelligence in a computer, requiring that a human being should be unable to distinguish the machine from another human being by using the replies to questions put to both.

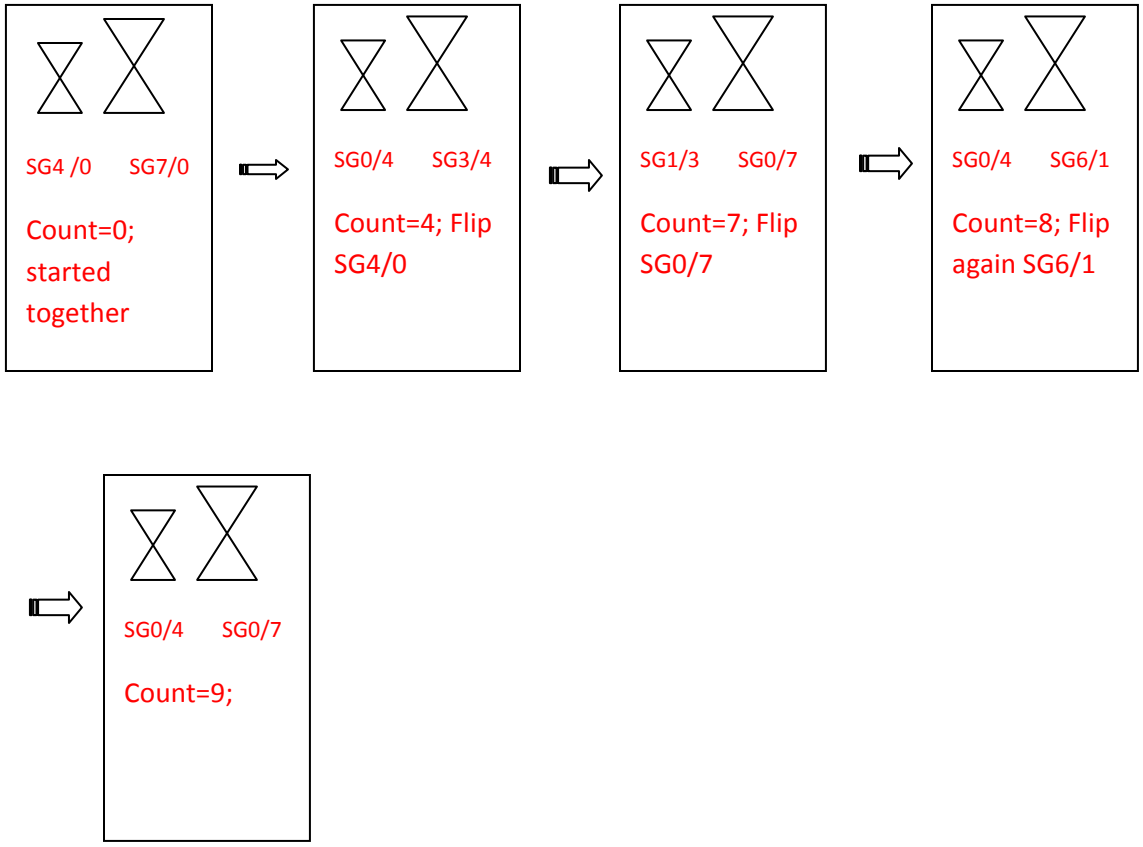
The test is simple: a human interrogator is isolated and given the task of distinguishing between a human and a computer based on their replies to questions that the interrogator poses. The computer's success at thinking can be quantified by its probability of being misidentified as the human subject. Turing test fail to incorporate any rigor cognition to the test process. The Chinese room is a thought experiment presented by the philosopher John Searle to challenge the claim that it is possible for a computer running a program to have a "mind" and "consciousness" together.

Question No. 2 Match the most appropriate values from the two columns. [1x10]

Column A	Column B
1. Percept Sequence	a. Goal Based agent (7)
2. Agent	b. Limited intelligence (6)
3. Sensors	c. Percept Input (3)
4. Feedback based action selections	d. Propositional logic (5)
5. Zero-order logic	e. World is indivisible (9)
6. Simple reflexive agent	f. History of Percept's of an agent (1)
7. Agent has an objective function	g. Agent Knows how the world evolve (10)
8. Actuators	h. Learning agent (4)
9. Atomic Representation	i. Architecture + Program (2)
10. Model Based Agent	j. Agents response to environment (8)

Question No. 3 State-Space-Graph/Search

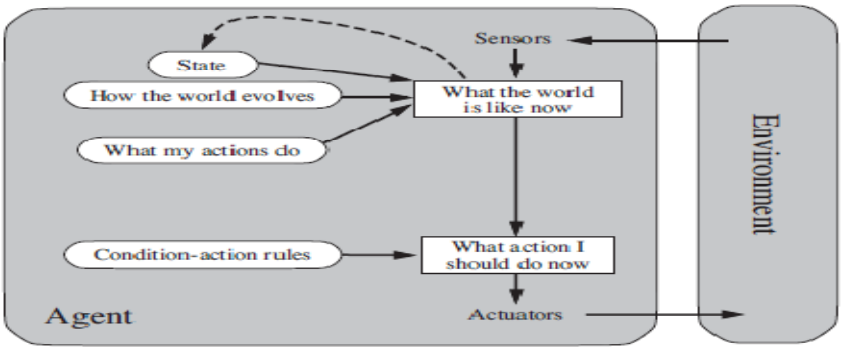
You are given two Hourglasses (Sandglass), a 4-min one and a 7-min one, you need to count exactly 9 min.? - Provide state-space transition graph for the entire problem. Clearly mark the initial state and goal state. You can only provide the state(s) that are part of a possible solution. [10]



Question No. 4 Intelligent Agents

Consider an agent program that will recommend course(s) from a BS(Computer Science) Degree program, Every semester it will recommend a workload as per the results from earlier semester (From previous education), to student for a new semester. - which agent architecture will be your choice? why? Identify the PEAS environment for this. Justify your answer. [10]

The best choice will be a Model based agent, which can build a possible set of cases by analyzing all possible courses and their prerequisite sequences for every semester. when a percept from a student is submitted for recommendation. It will look-up for the possible complete information and select recommendation as per the recommendation policy from the department.



Performance	How good the recommendations are? Does it increase CGPA?
Environment	Application Environment like NEON;
Actuators	Registration Request for courses;
Sensors	Past semester/early education performance of the students ;