Juan Pablo Vielma
A01203239

1. How can we differentiate an agent from any other piece of software? What are the special qualities that make it an agent?

   An agent is something that perceives and acts in an **environment**. An agent has **sensors** that assist the process of perceiving the environment and **actuators** that assist the process of acting on it.

2. Provide 3 examples of environments. Describe them accordingly to the properties of environments.

Fully Observable & Partially observable	-A task environment is fully observable if the sensors detect all aspects that are relevant to the choice of actions. -An environment is partially observable if it's data is not complete due to any kind of scenario.
Single Agent & Multiagent	-A single agent environment is an environment in which there is ony **one** agent acting. -A multiagent environment is that in which there is more than one agent action (i.e. Chess).
Deterministic & Stochastic	-A deterministic environment is that in which the next state of the environment is completely determined by the the current state and the executed state. -A stochastic environment is that in which the next state can't be determined.

3. Are there any parts that are not fundamental for agents? i.e. parts you could take away and have the program remain an agent.

4. Google the concept of a computational reactive agent, then look in formal sources and write half a page (200 – 250 words) describing what a reactive agent is, and what other types of agents exist. Include your references.

   [ran out of time to complete this part, but here are some ideas]

   -Reactive planning refers to a group of technics for action selection by autonomous agents.

-Agents must have sufficient information available in their local environment to determine an acceptable action.

-Relationship between individual behaviors, environment and overall behavior is not understandable.

-It is difficult to build agents that contain many layers due to dynamics and complexity.

Source: http://www.cs.put.poznan.pl/swilk/miasi2/lectures/05-Reactive-and-Hybrid-Agents.pdf