Assignment One

1) The question answer's one are the following like this and they are:

a) The object is to hit the ball so that it goes over the net and bounces on the opponent's half of the table in such a way that the opponent cannot reach it or return it correctly. The lightweight hollow ball is propelled back and forth across the net by small rackets (bats, or paddles) held by the players.

b) It is sometimes said that if you can drive in Egypt, you can drive anywhere in the world. In general, tourists are not advised driving in Egypt themselves. Tourists often choose to travel by public transport or taxi, or to rent a car with a personal driver

c) **Traffic flow lines**: **Red** lines = Heavy traffic flow, **Yellow/Orange** lines = Medium flow and **Green** = normal traffic or no traffic*. Black lines or No traffic flow lines could indicate a closed road, but in most cases it means that either there is not enough vehicle flow to register or traffic isn't monitored. Also, If you do not see traffic flow, you can zoom in closer to reveal localized data. If you are unable to pan the map, **press here** (to focus off of the map) and try again.

d) Yes. Software robots are capable of handling such tasks, particularly if the design of the web grocery shopping site does not changes radically over time.

e) Software robots are capable of handling such tasks, particularly if the design of the web grocery shopping site does not changes radically over time.

f) Bridge is a game played by four players, using a standard deck of 52 playing cards divided into four suits (spades ♠, hearts ♥, diamonds ♦, and clubs ♣), and each containing 13 cards. The players (who are normally referred to as

North, South, East, and west) play as two opposing teams, with North and South playing as partnears against East and West. A Bridge deal consists of two phases: (1) bidding and (2) play

g) **Identify the assumptions and goals of the theorem**. Understand the implications of each of the assumptions made. Translate them into mathematical definitions if you can. Make an assumption about what you are trying to prove and show that it leads to a proof or a contradiction.

h) Writing an intentionally funny story. I) Giving competent legal advice in a specialized area of law. J) Translating spoken English into spoken Swedish in real time. K)Performing a complex surgical operation. For the currently infeasible tasks, try to find out what the difficulties are and predict when, if ever, they will be overcome. 1.14) A) Playing a decent game of table tennis (Ping-Pong) — This is solvable by computers

i) The line between "legal advice" and "legal information" is often blurry. As a general matter, only a lawyer may give actual legal *advice*, whereas any non-lawyer may recite legal *information*. Furthermore, it is generally illegal for a non-lawyer or unlicensed attorney to offer legal advice or otherwise represent someone other than themself in court.

j) Translating spoken English into spoken Swedish in real time - This is possible by computers. This is seen in UN General assembly meetings where a speech is translated into many languages in real time

k) Robotic surgery, also called robot-assisted surgery, allows doctors to perform many types of complex procedures with more precision, flexibility and control than is possible with conventional techniques. Robotic surgery is usually associated with minimally invasive surgery — procedures performed through tiny incisions

2) Artificial Intelligence is **both a science and engineering** Artificial Intelligence (AI) is a branch of research and engineering that integrates science and engineering to construct intelligent machines. It draws on work from philosophy, psychology, and computer science, as well as brain science and languages
3) Are the following and they are:

(a)Supermarket bar code scanners are only able to read the code however they are not able to perform any kind of machine learning techniques to be able to learn a sequence from the codes. As machine learning is a important part of artificial intelligence (AI) so they are not instances of AI. Similarly for Voice-activated telephone menus they could only display and cannot perform any intelligent task.

(b) Web search engines and Internet routing algorithms are very dynamic and intelligent in processing and retrieving information to the end user.

So they are instances of AI.

(c) Voice-Activated Telephone Menus are in a way, **similar to Web Search Engines**. The phone is programmed to hear a voice, listen for key words, and perform an action based on those words

(d) Internet routing algorithms that respond dynamically to the state of the network **respond on their own to what's happening in their environment**. If there is too much traffic, it can decided whether or not to open up more space. Internet Routing Algorithms know what ports are accessible and which ones are not.

4) Define my own word are the following word and they are:

a) Intelligence has been defined in many ways: the capacity for abstraction, logic, understanding, self-awareness, learning, emotional knowledge, reasoning, planning, creativity, critical thinking, and problem-solving.

b) **Artificial intelligence** (**AI**) is intelligence demonstrated by machines, as opposed to the natural intelligence displayed by animals and humans.

c) In linguistics, a grammatical agent is the thematic relation of the cause or initiator to an event. The agent is a semantic concept distinct from the subject of a sentence as well as from the topic

d) Rationality is the quality of being guided by or based on reasons. In this regard, a person acts rationally if they have a good reason for what they do or a belief is rational if it is based on strong evidence

e) The logical reasoning section is an important part of competitive exams. It contains different types of reasoning questions which are intended to judge analytical and logical reasoning skills of the candidate.

5) List all the fields of AI and explain each one in detail (no more than 8 lines).

are the following and they are:

a) **Machine learning** (**ML**) is a field of inquiry devoted to understanding and building methods that 'learn', that is

b) **Deep learning** is part of a broader family of **machine learning** methods based on artificial neural networks with representation learning

c) Artificial **neural networks** (ANNs), usually simply called **neural networks** (NNs) or **neural nets**,

d) **Cognitive computing** is the use of computerized models to simulate the human thought process

e) Natural language processing is a subfield of linguistics, computer science

f) **Computer vision** is a field of artificial intelligence (AI) that enables computers and systems to derive meaningful information from digital image