Assignment No:-18

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Q1)	Explain PEAS descriptions for wumpvs world
>	i) performance measure
	- +100 for grobbing the gool and coming back
	to start
	- · 200 if the player is killed
	-1 per aution
	-10 for using the arrow.
	ii) Enviorment
	- Empty Rooms
	- Room with wumpus
	- Rooms neighbouring to WUMPUS which are
	6 mel y
	- Room with gold which is glitery
	- Arrow to short the wimples
	iii) sensors cassuming a robotic ageration
	- Compro to get the view
	- odour sensor to smell the stench
	- Avoid sensor to listen to screen and bump.
	iv) Effectors. Cossuming robotic agent)
	- Motor to move left right
	- Robot and to grab the gold
	- Robot mechanism to shoot the arrow.
	The wumpys world agent following characteristic,
	a) fully observable b) Delermination e) Episodic
	d) static e) piscrete f) single agent
	J. agrill

(2) Explain various elements of cognitive system - cognitive compuling is a new o type of computing with the good of more assurate models of how the human brain/mind senses, reasons, and responds to stimulus. Generally, the term cognitive computing is used to refer to new hordware and/or software that mimic the following fimitioning of human brain thereby improving human decision making cognitive computing applications links data analysis and adaptive page diplo i.e. Adaptive user interfoces to adjust content for a particular type of oudience. - following are elements of cognitive system: a) Interactive: They may interact easily with users so at those users can define their needs comfortably. They may also interact with other processors, devices and cloud services, as well as with people b) Adaptive: They may be engineered to feed on dynamic data in real time, they may learn as information changes and an goals and requirement evolve. They may resolve ambiguity and tolerate, unpredictability behaviours c) Ion texual: They may understand, identify and extract contexual elements such meaning syntax location appropriate domain etc: d) I terative and Statellow: They may aid in defining a problem by alking questions or finding additional source iput if a problem statement is incomplife



(23) write note on language Madel. - The goal of a language model is to compute a probability of a token cry a soutences or sequence of words and are useful in mony different MPC opplication - language model (cm) acutally à grammar of a language as it gives the probability of word that will follow. - In case of (cm) the probability of a Sentences as sequence of word is: - P(w) - P(w, w2, w3, ... wn) - It can also be used to find the prohability of the next word in sentence: 12: (ws/w. w2, w3, w4) - A model that compute either of these is longuge Model - There are various language. Model ovailable a a) Meturds using markov coumption: · A process which is stochatic in nature is soid to have the markax property if the conditional probability of future states depends upon present state; b) N- gram mudels: - From the markov Assumptions we can formally define models where |= n-1 as following:.. P (w, (w. w2 ... wi-1) c) Unigram Madel (=1):. P(w, w2...wn)= Ip(wi)



d) Bigram Madel (1 = 2)! p(wi/w.wz...wi-i) p(wi/wi-1) (wi | wi-1) = count (wi-1-ww) (count (wi-1) write a note on Machine translation. Q4) - Machine translation is dassic test of language understand. It consist of both language analysis and generation many machine translation system have huge commercial use following are fou of examples: - Google translate goes through 100 billion word. per day - eBay uses machine translation techniques to enable cross border trade and connect buyers! sellers orcound globe. - face book uses (M(1) to translate text in poin and commen's automobically in order to break language bomiers. - System become the first software provider to launch a Neural Machine translation anagine in more than 30 languages in 2016 - Microsoft brings AI - powered tegnilation be end users and developers on android lios, and amozon fire. whether or not they have access to Internet - In a traditional machine franclation system. parallel corpus a collection of from is used to

each of width is translated into one or more



other longuage than the original for example, given the source language eq. french and the target language eq. french and the target language eq. English multiple statical madels needs to be build including a probability parmulation using the Rayisian rule a translaction madel posse trained an parallel corpus and a language madel posse trained an english corpus - It is abiaus that this approach skips hundraules of important details require a lat human reature engineering and is overall a complex system.

Q5) Explain the following terms:

o) phonology: -

in an Nep enahmal: language processing 2 systems

b) Marphology:

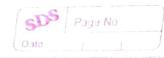
- It is a study of construction of words form primitive meaningful units.

c) cexical Analysis:

cexical analysis deals with recognifion and identification of structure phrases and words.

d) Syntatic Analysis:

- In Syntatic Analysis the Secretaries are parsed as nown verbs adjective and other parts of Sentences. In this phase the grammer of the Sentences is analysed in order to get relationship among different words in Sentences example. Mango each me will be rejected



by analyzer

e) word sens. disambigution.

meaning we have to select the meaning which makes the moit sens in context for example we are typically given a list of words associated words senses cer from a dictionary or from an applied resource such as word net.