**AI Lab Sheet # 9 Class: BSCS**

**OBJECT: TO WORK WITH MEDICAL DIAGNOSIS USING LISTS**

**Theory:**

cause(disease1, [symptom1]).

cause(disease2, [symptom2]).

cause(disease3, [symptom3]).

cause(disease4, [symptom1, symptom2]).

cause(disease5, [symptom1, symptom3]).

cause(disease6, [symptom2, symptom]).

cause(disease7, [symptom1, symptom2, symptom3]).

**diagnose(Person, Disease):-**

suffers\_from(Person, Symptoms),

cause(Disease, Symptoms).

**suffers\_from(Person, Symptoms):-**

write(‘ Patient name ? ‘),

read(Patient),

write(‘ Give list of symptoms ‘),

read(Symptoms).

**hi\_doctor:-**

diagnose(Person, Disease),

write(Person),nl,

write(Disease),nl.

In place of diseases and symptoms, add real diseases and their symptoms.

**OBJECT: TO STUDY SENTENCE PARSING**

**Theory:**

**Sentence parsing architecture:**

Sentence

Verb

Noun Phrase

Verb Phrase

Noun

Noun Phrase

Noun

Article

Article

The man likes the horse

**A PROLOG APPLICATION: (%% Rule base:)**

parseSentence(X) :- sentence(X,[]).

sentence(Start, End) :- nounphrase(Start, Rest),

verbphrase(Rest, End).

nounphrase([Noun|End],End) :- noun(Noun).

nounphrase([Article, Noun|End],End) :-

article(Article),

noun(Noun).

verbphrase([Verb|End], End) :- verb(Verb).

verbphrase([Verb|Rest],End) :- verb(Verb),

nounphrase(Rest, End).

**%% Facts/ Knowledge base:**

article(a).

article(the).

noun(man).

noun(horse).

verb(likes).

**%% Queries:**

?- parseSentence([the,man,likes,the,horse]).

Yes

?- parseSentence ([the,man,likes,the,X]).

X = man ; X = horse

Yes

?- parseSentence ([a,likes,the,X]).

No