

CSE140: Introduction to Intelligent Systems (Winter 2023)

Lab Evaluation – 2

Marks - 20

Date – 06/042023

Duration -50mins

Instructions –

- Submit the prolog code on google classroom.
- The code should be neat and well documented.
- Do not copy paste from the internet or classmates. **Standard institute plagiarism policy holds.**

Q1) Write a Prolog program to find the sum of a list of numbers using recursion. **[5 Marks]**

Q2) Consider the following set of rules and facts related to different breeds of dogs:

breed(dachshund, small).

breed(chihuahua, small).

breed(beagle, medium).

breed(boxer, large).

color(dachshund, brown).

color(chihuahua, tan).

color(beagle, white_and_brown).

color(boxer, fawn).

person(john, chihuahua).

person(sara, beagle).

person(mike, boxer).

person(amy, dachshund).

small_dog(X) :- breed(X, small).

medium_dog(X) :- breed(X, medium).

large_dog(X) :- breed(X, large).

brown_dog(X) :- color(X, brown).

tan_dog(X) :- color(X, tan).

white_and_brown_dog(X) :- color(X, white_and_brown).

fawn_dog(X) :- color(X, fawn).

dog_owner(X, Y) :- person(X, Z), breed(Z, Y).

Now write a Prolog program to answer the following questions:

- a) Who are the owners of small dogs? **[5 marks]**
- b) What colors do beagles come in? **[5 marks]**
- c) What is the size of Amy's dog? **[5 marks]**