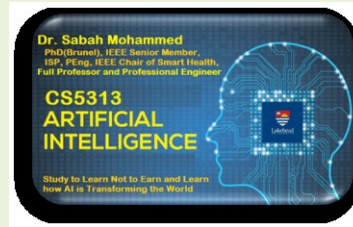




COMP5313 Artificial Intelligence

Department of Computer Science

Exercise 2: Constraints Satisfaction Problem Solving in Python



Solving logic puzzles in Symbolic AI like CSP is important. In this exercise you are going to use your CSP Python programming skills to solve Agility Competition Logic Grid Puzzle in which four dogs took part in an agility competition and you need to answer questions like which is the breed of the dog named Thor.

<https://www.brainzilla.com/logic/logic-grid/agility-competition/>

The goal of this exercise is to figure out the combination of: the dog's name, the breed, the task they were best in, and which place they ranked in. We are given the following clues:

- Only the winning dog has the same initial letter in name and breed.
- The Boxer ranked 1 position after the Shepherd. None of them likes the tunnel, nor jumping through the tire.
- Cheetah and the dog who loves the poles were 1st and 3rd.
- Thor doesn't like the plank and didn't come 2nd.
- Cheetah either loves the tunnel or she came 4th.
- The dog who loves the plank came 1 position after the dog who loves the poles.
- Suzie is not a Shepherd and Beany doesn't like the tunnel

		Breed				Best				Ranking			
		Boxer	Collie	Shepherd	Terrier	Plank	Poles	Tire	Tunnel	1	2	3	4
Name	Beany												
	Cheetah												
	Thor												
	Suzie												
Ranking	1												
	2												
	3												
	4												
Best	Plank												
	Poles												
	Tire												
	Tunnel												

Submission Details:

1. One ZIP file (Other compression types like RAR are **NOT** Acceptable) containing the source file (YourName_Ex2.py) + **ReadMe.pdf** (MS Word is **NOT** acceptable) describing the idea of your program + Screen Shot of the outputs + the Jupyter File (IPYNB).
2. Submit to D2L only before due date (**One hr delay take 1 Mark up to three hours**).
3. It must be your individual work
4. Double submissions are **not** allowed.

Important Note: Respecting the student behaviour code is highly appreciated and any submission found with high similarity with other students solutions or from solutions over the Internet will be **rejected**.

<https://www.lakeheadu.ca/faculty-and-staff/policies/student-related/code-of-student-behaviour-and-disciplinary-procedures>