CSE 643: Artificial Intelligence

Assignment 3: Career Advisory System

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The program recommends possible career options to a student, based on academic area of the student, interested work areas, cgpa and hobbies.

Below are the given possible values of each of these fields.

```
# m.acad = ['electronics', 'design', 'mathematics', 'bioinformatics',
'computers', 'data science']
# m.interest = ['corporate', 'public service', 'academics']
# m.cgpa = [‘good’, ‘bad’]
# m.hobby = ['music', 'dance', 'sports']
```

The possible career options are chosen from the following list:

```
# Possible Careers
# ['Web Developer', 'Mobile App Developer', 'Consultant', 'Management',
'Computer Security Analyst', 'Web Designer', 'App Designer'
# 'UPSC Public Servant', 'SSC Public Servant', 'Armed Forces',
# 'Researcher', 'Teacher', 'Professor',
# 'Hardware Engineer',
# 'Singer', 'Dancer', Sportsperson']
```

There are three rulesets,

1. Interests: Deals with workplace interest of the student
    a. interest required
    b. cgpa required
2. Hobby: Deals with hobby of the student
    a. hobby required
3. Academics: Deals with the academic area of the student
    a. acad required

To recommend a subset of career options, we have to tell the facts in three rulesets. Example is given below:

```
assert_fact('interests', {'interest' : 'corporate', 'cgpa': 'good'})
assert_fact('hobby', {'hobby' : 'sports'})
assert_fact('academics', {'acad' : 'computers'})
```

The program goes through the knowledge base, uses forward chaining of rules, and comes up to the conclusion of the recommended career paths.

```
(venv) hadron43@blueDoor:~/projects/AI/Ass3_Career_Advisory(main)$ python3 career.py
Possible career: You can be Web Developer
Possible career: You can be Mobile App Developer
Possible career: You can be Physical Fitness Trainer
Possible career: You can be Coach
Possible career: You can be Sports Player
Possible career: You can be Cloud Engineer
Possible career: You can be Cyber Security Expert
```

The program goes through the given truth values, and extends this knowledge by asserting additional rules about the student through forward chaining. Then, finally all possible career options from relevant fields are identified and displayed.