



Project: an expert system using Prolog

The COVID Symptom Checker

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Introduction

The COVID Symptom Checker is a Prolog program designed to assist users in assessing symptoms related to COVID-19. The program allows users to input symptoms, perform a temperature check, and undergo a basic checkup to determine if the symptoms align with those of COVID-19.

Features

1. Add Symptom

Users can input and record symptoms associated with COVID-19. The program checks for duplicate entries.

2. Display Symptoms

The program can display a list of recorded COVID symptoms, providing users with an overview of the symptoms entered.

3. Check Symptom

Users can check whether a specific symptom is associated with COVID-19. The program provides feedback based on the input.

4. Temperature Check

A temperature check is performed, and the program indicates whether the patient has a fever based on the entered temperature.

5. Perform Checkup

The program conducts a checkup based on predefined rules to determine if the entered symptoms align with those of COVID-19. It provides advice and recommendations accordingly.

Usage

1. Loading the Program:

- Load the Prolog file containing the COVID Symptom Checker program.

2. Starting the Program:

- Call the **menu/0** predicate to initiate the program.

3. Menu Navigation:

- Follow the on-screen menu options to input symptoms, perform checks, and receive advice.

Example Usage

?- menu.

1 => add symptom:

2 => display symptoms.

3 => check symptom.

4 => do temperature check *C.

5 => perform checkup.

Enter choice: 1

Enter symptom: cough

Enter another (y/n) ? y

Enter symptom: fever

Symptom already recorded

Enter another (y/n) ? n

Implementation Details

- **Dynamic Predicates:**
 - The program utilizes dynamic predicates (**symptom/1**, **checkSymptom/1**, **yes/1**, **no/1**) to store and manage symptom data and user responses.

- **Checkup Rules:**

- The checkup is based on predefined rules, checking for common COVID symptoms.

- **Temperature Conversion:**

- The program converts entered temperatures from Celsius to Fahrenheit.

Conclusion

The COVID Symptom Checker Prolog program offers a basic yet effective tool for assessing COVID-related symptoms. It serves as an example of rule-based systems and provides a foundation for further development and customization.