Expert System

Medisch expert systeem

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Table of Contents

[Introduction 2](#_Toc34398802)

[Queries 3](#_Toc34398803)

[Do I have disease X? 3](#_Toc34398804)

[Does disease Y contain a common symptom that occurs with every disease included in this system? 4](#_Toc34398805)

[Can disease Y lead to another disease? 5](#_Toc34398806)

[Since I know the unique symptom and the possible diseases I have, would I have disease X or disease Y? 6](#_Toc34398807)

[What medicine are available for a specific disease? 7](#_Toc34398808)

[What diseases can this medicine be used for? 7](#_Toc34398809)

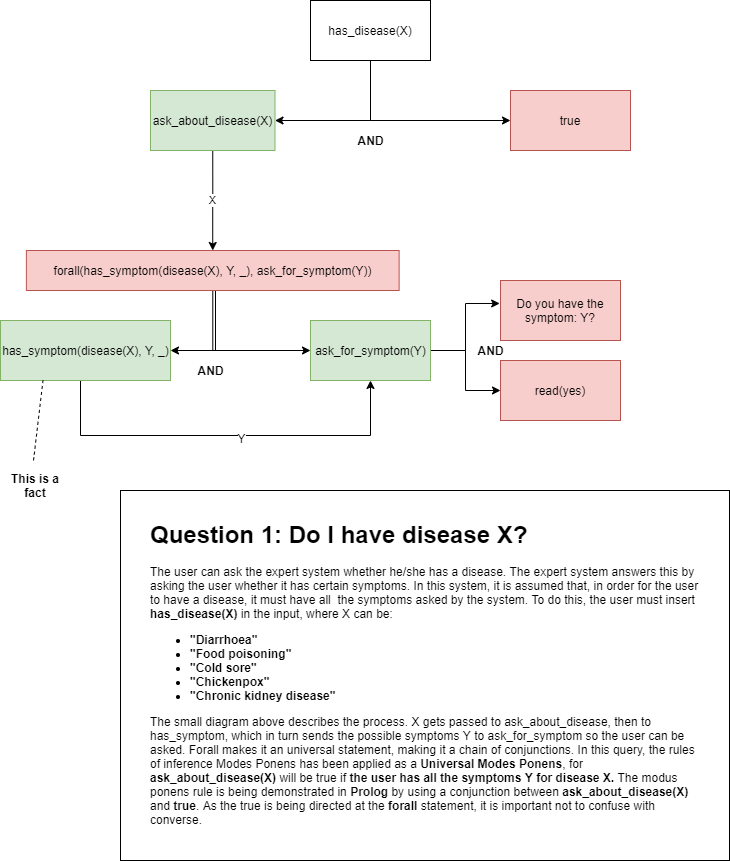
# Introduction

An expert system has been made in Prolog, which is a programming language for logic. This expert system is a medical one as it concerns diseases. You can check which disease you are likely to have based on symptoms the user has confirmed. You can ask if a disease contains common symptoms, can ask if you have a certain disease, you can ask if one disease leads to another, you can ask what disease is likely given unique symptoms and ask if a disease contains common symptoms. You can also check for medicine for a disease.

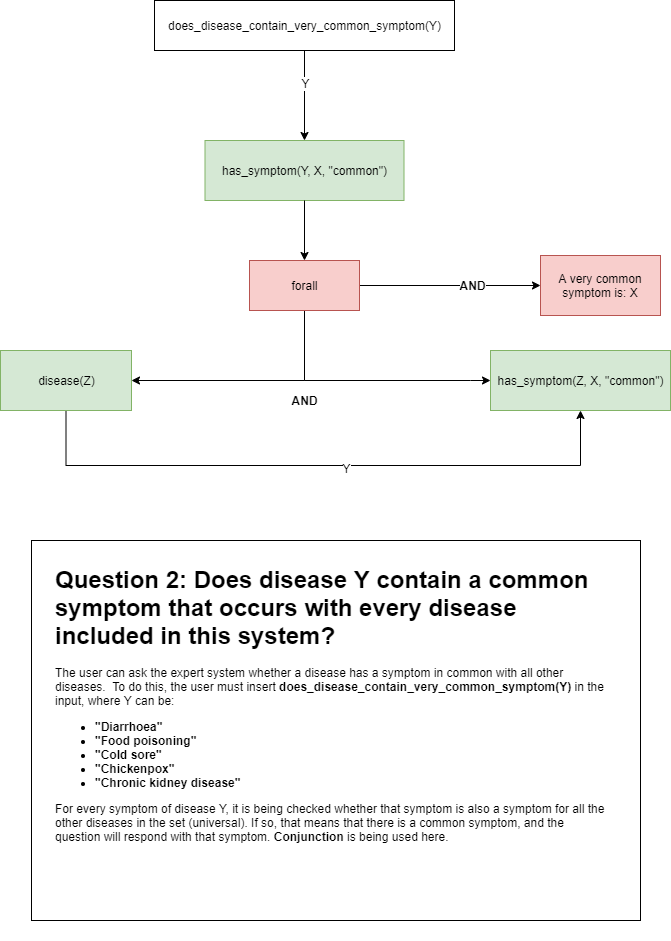
# Queries

Below are all the queries with their rules of inference and rationale with explanation of the source code. Next to that there will be instructions for using the query. The extra features are documented in Appendix A.

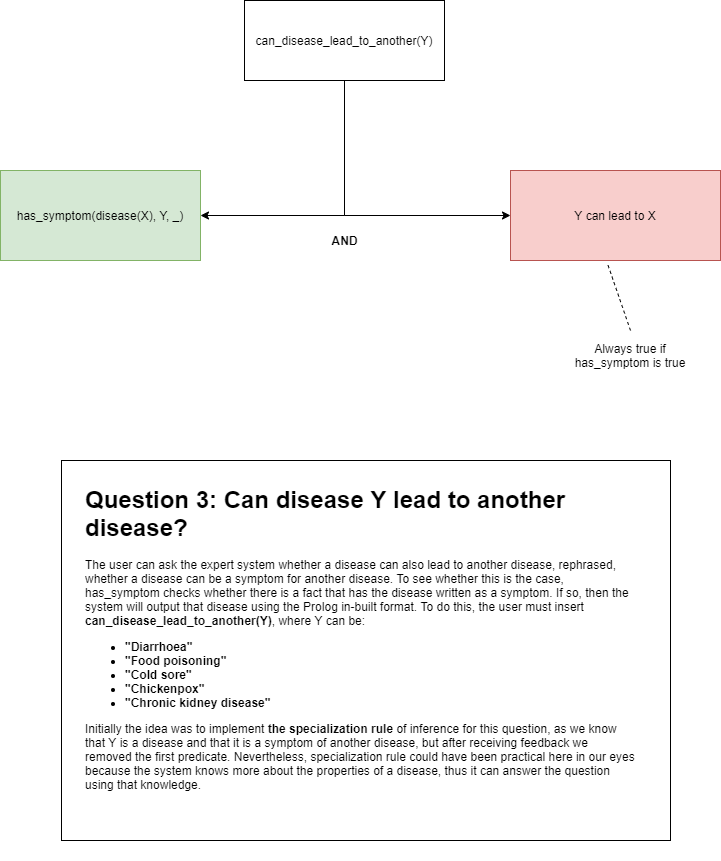
## Do I have disease X?



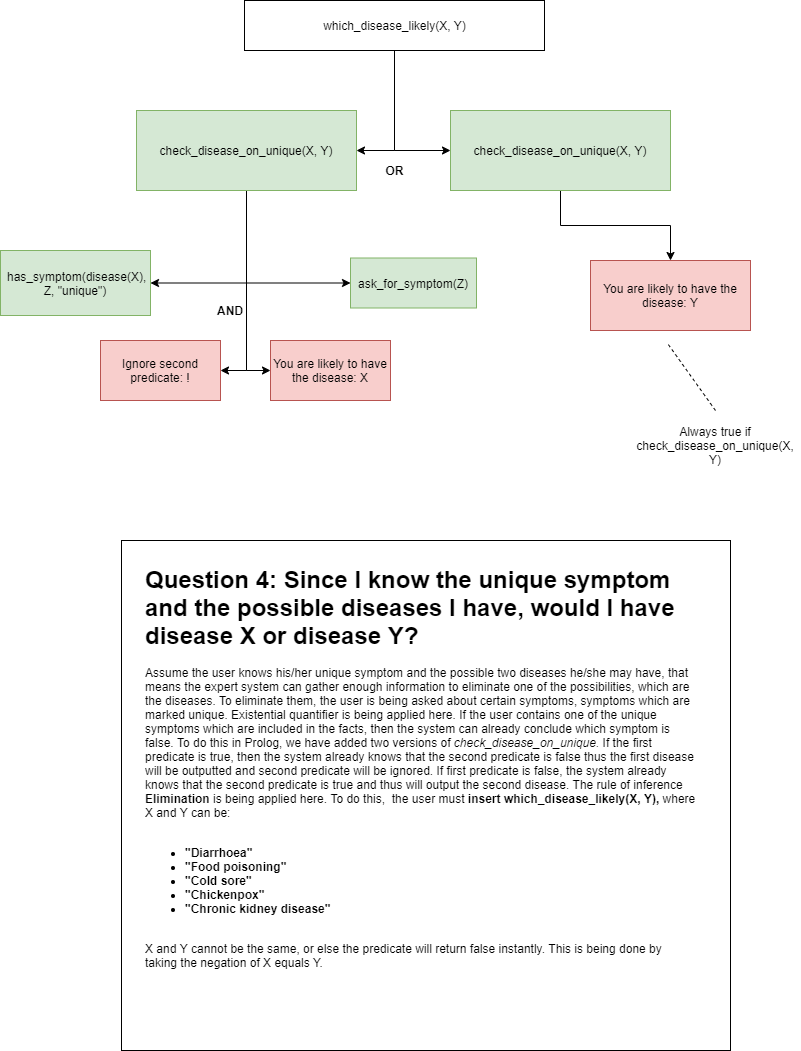
## Does disease Y contain a common symptom that occurs with every disease included in this system?



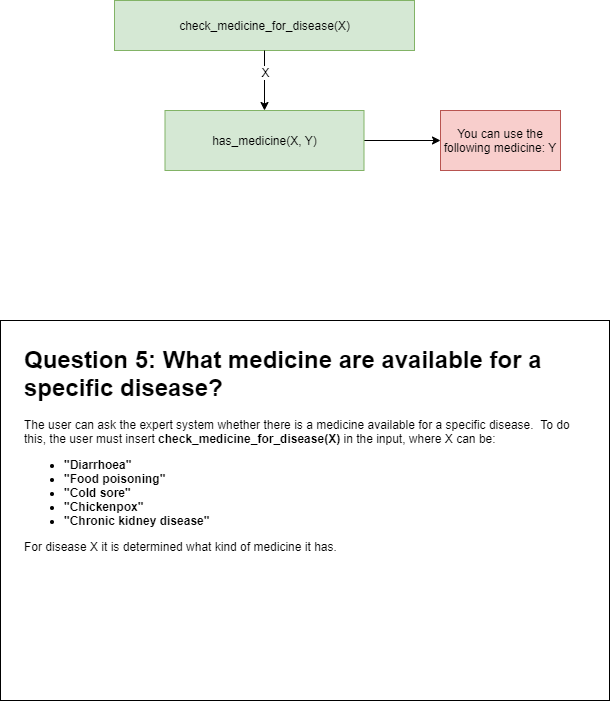
## Can disease Y lead to another disease?



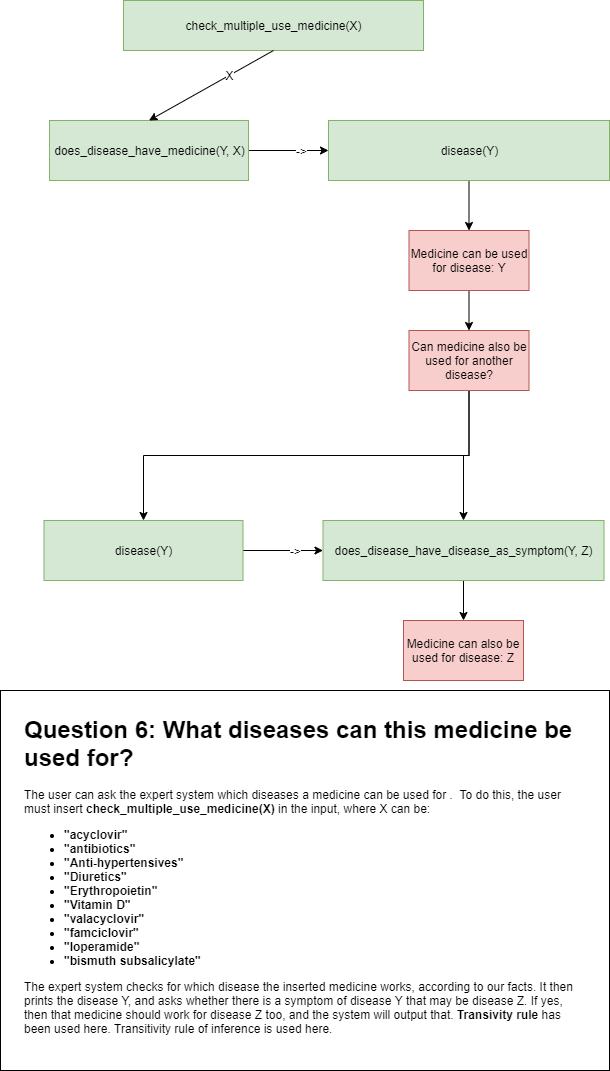
## Since I know the unique symptom and the possible diseases I have, would I have disease X or disease Y?



## What medicine are available for a specific disease?



## What diseases can this medicine be used for?



# Appendix A: extra features

*ask\_about\_disease(X): used to ask the user whether he/she has the symptoms that belong to the disease.*

*check\_disease\_on\_unique(X, Y): the two predicates are being used for elimination. The second one will not happen. If the first one is true, which means that it is false by default, thus it can be eliminated. If first predicate is false, then that means the second one is true. To ignore the first predicate (if second is false), the !-sign is being used.*

*ask\_for\_symptom(X): used to ask the user about symptom, which is needed to calculate the truth value in some questions.*

*ask\_for\_disease(X): asks if user has a certain disease.*

*does\_disease\_have\_disease\_as\_symptom(X, Y): asks if a disease has another disease as a symptom.*

*does\_disease\_have\_medicine(X, Y): asks if a disease has a medicine*

*disease(X): one of the diseases stored in our database.*

*has\_symptom(disease(X), Y, Z): Y is the symptom, Z describes how common the symptom is and disease(X) is the disease for which the symptom is meant to be.*