

The background is a solid dark green color. It features several abstract, wavy white lines that sweep across the frame. One prominent line starts from the left edge and curves upwards and then downwards. Another line starts from the right edge and curves downwards. There are also some lighter green, semi-transparent shapes in the background, including a large one in the top left and another in the bottom right.

EXPERT SYSTEM FOR DIAGNOSIS

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Topics Covered

1- Project concept

2- flow chart

3- pseudocode

4- code

Project Idea

Our project is an expert system used for diagnosis. The system asks the user several questions about the symptoms that the user feels. Then, according to the data, it will give a prediction about what disease they may have and suggest some protocols to help them get better.

Development Environment:

swish

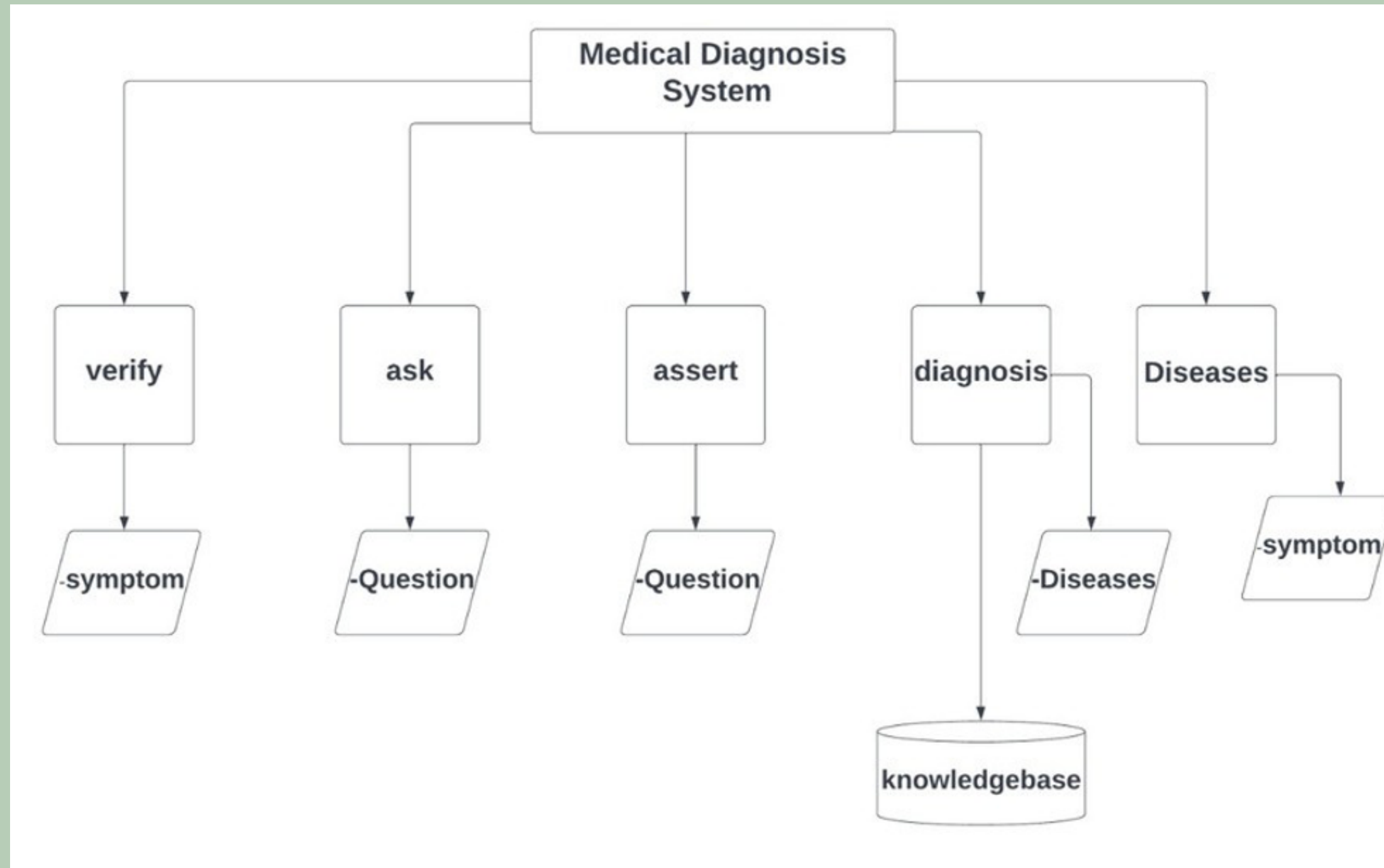
Language:

prolog

Used AI Approach:

expert system

flow chart



pseudocode

This system ask the user questions about symptoms and records the answers, to diagnose the disease. it use its identification rules to determine the disease you have.

```
if a Question is asked && the answer is 'y' or 'yes', Then  
    assert 'yes(Question)',
```

```
else
```

```
    assert 'no(Question)' and failing.
```

To verify symptoms

```
if 'yes(S)' has been stored, Then  
    succeed.
```

```
Else if 'no(S)' has been stored, Then  
    failing.
```

```
Else  
    ask(S).
```

CODE


```

1 start:-
2 diagnosis(Diseases),
3 write('you may have: '),
4 write(Diseases),
5 nl,
6 write('get well soon'),
7 undo.
8
9 /* list of diagnosis */
10 diagnosis(covid19) :- covid19, !.
11 diagnosis(cold) :- cold, !.
12 diagnosis(sore_Throat) :- sore_Throat, !.
13 diagnosis(foodPoisning) :- foodPoisning, !.
14 diagnosis(colon_Disorders) :- colon_Disorders, !.
15 diagnosis(flu) :- flu, !.
16 diagnosis(unknown). /* no diagnosis*/
17
18 /* Diseases and their symptoms*/
19 covid19 :-
20 verify(fever),
21 verify(cough),
22 verify(tiredness),
23 verify(loss_of_taste_or_smell),
24 write('Sugestions:'),
25 nl,
26 write('1:Take PCR Test'),
27 nl,
28 write('2: panadol/tab'),
29 nl,
30 write('3: Take a Rest'),
31 nl,
32 write('4: Azithromycin/tab'),
33 nl,
34 write('Please do complete bed rest and take soft Diet Because'),
35 nl.

```

```

36
37 cold :-
38 verify(headache),
39 verify(runny_nose),
40 verify(sneezing),
41 verify(sore_throat),
42 write('Sugestions:'),
43 nl,
44 write('1: Stay Rested'),
45 nl,
46 write('2: Drink Hot Liquids'),
47 nl,
48 write('3:Try a Lozenge to Soothe Your Throat'),
49 nl,
50 write('Please weare warm cloths Because'),
51 nl.
52
53 flu :-
54 verify(fever),
55 verify(headache),
56 verify(chills),
57 verify(body_ache),
58 write('Sugestions:'),
59 nl,
60 write('1: Hydrate'),
61 nl,
62 write('2: Sleep as much as possible'),
63 nl,
64 write('3: Have a spoonful of honey to soothe a cough'),
65 nl,
66 write('Please Get a flu shot'),
67 nl.
68

```

```

69 foodPoisning:-
70 verify(nausea),
71 verify(vomiting),
72 verify(watery_or_bloody_diarrhea),
73 verify(fever),
74 verify(abdominal_pain_and_cramps),
75 write('Sugestions:'),
76 nl,
77 write('1: Following the Diet'),
78 nl,
79 write('2: Adding Probiotics to Your Meals'),
80 nl,
81 write('3: Taking Over-the-Counter Medicines'),
82 nl,
83 write('4: Drinking Ginger or Mint Tea'),
84 nl,
85 write('Please do complete bed rest and take soft Diet Because'),
86 nl.
87
88 sore_Throat :-
89 verify(painful_throat_especially_when_Swallowing),
90 verify(dry_scratchy_throat),
91 verify(redness_in_the_back_of_your_mouth),
92 verify(bad_breath),
93 verify(mild_cough),
94 verify(swollen_neck_glands),
95 write('Sugestions:'),
96 nl,
97 write('1: Gargle with salt water'),
98 nl,
99 write('2: Fight dry air with a humidifier'),
100 nl,
101 write('3:Sip herbal teas.'),
102 nl,
103 write('4: Give your voice a rest.'),

```

```

104 nl,
105 write('Please Get rest and use more liquid Because'),
106 nl.
107
108
109 colon_
110 verify(abdominal_pain),
111 verify(diarrhea),
112 verify(constipation),
113 verify(gas),
114 verify(bloating),
115 verify(cramping),
116 write('Sugestions:'),
117 nl,
118 write('1:reduce red meat'),
119 nl,
120 write('2: reduce fried foods and coffee'),
121 nl,
122 write('3: drink more water'),
123 nl,
124 write('4:increase fibers in your diet'),
125 nl,
126 write('Please do not sleep in open air
127         |and cover your full skin Because'),

```

```
128
129 /* diagnosing the symptoms */
130 ask(Question) :-
131 write('Do you have following symptom:'),
132 write(Question),
133 write('? '),
134 read(Answer),
135 nl,
136 ( (Answer == yes ; Answer == y)
137 ->
138 assert(yes(Question)) ;
139 assert(no(Question)), fail).
140
141 :- dynamic yes/1,no/1.
142 /*How to verify something */
143 verify(S) :-
144 (yes(S)
145 ->
146 true ;
147 (no(S)
148 ->
149 fail ;
150 ask(S))).
151 /* undo all yes/no assertions*/
152 undo :- retract(yes(_)),fail.
153 undo :- retract(no(_)),fail.
154 undo.
```



Thank you!