Write a Prolog Program to suggest Dieting System based on Disease.

AIM

To write a Prolog program that suggests an appropriate diet based on a person's disease.

ALGORITHM

1. Start the program.
2. Define facts in the form diet(Disease, SuggestedDiet) for each disease.
3. Write a rule suggest_diet(Disease) to display the suggested diet for the input disease.
4. Load the program into the Prolog interpreter.
5. Query the program using suggest_diet(Disease). to get the diet recommendation.
6. Prolog retrieves and displays the diet for the specified disease.
7. Stop.

```
% Facts: diet(Disease, SuggestedDiet)
diet(diabetes, 'Low sugar, High fiber, Frequent small meals').
diet(hypertension, 'Low salt, High potassium, Fruits and vegetables').
diet(obesity, 'Low fat, Low sugar, High protein, Controlled portions').
diet(anemia, 'Iron-rich foods, Leafy greens, Red meat, Vitamin C rich foods').
diet(heart_disease, 'Low cholesterol, Low saturated fat, Omega-3 rich foods').

% Rule to suggest diet for a disease
suggest_diet(Disease) :-
    diet(Disease, Diet),
    write('For '), write(Disease), write(', suggested diet is: '), write(Diet), nl.
```

OUTPUT:

```
?-
% c:/Users/gayathri/Downloads/diet.pl compiled 0.00 sec, 6 clauses
?- suggest_diet(diabetes).
For diabetes, suggested diet is: Low sugar, High fiber, Frequent small meals
true.

?- suggest_diet(hypertension).
For hypertension, suggested diet is: Low salt, High potassium, Fruits and vegetables
true.

?- diet(Disease, Diet).
Disease = diabetes,
Diet = 'Low sugar, High fiber, Frequent small meals' ;
Disease = hypertension,
Diet = 'Low salt, High potassium, Fruits and vegetables' ;
Disease = obesity,
Diet = 'Low fat, Low sugar, High protein, Controlled portions' ;
Disease = anemia,
Diet = 'Iron-rich foods, Leafy greens, Red meat, Vitamin C rich foods' ;
Disease = heart_disease,
Diet = 'Low cholesterol, Low saturated fat, Omega-3 rich foods'.

?-
```

RESULT

The program successfully suggests the appropriate diet for a given disease, providing dietary recommendations to the user.