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

**Program:**

% Define the foods and their properties

food(apple, fruit, sweet, low\_calorie).

food(banana, fruit, sweet, high\_calorie). food(carrot, vegetable, savory, low\_calorie). food(potato, vegetable, savory, high\_calorie). food(chicken, meat, savory, high\_protein). food(fish, seafood, savory, high\_protein). food(spinach, vegetable, savory, high\_iron). food(almonds, nut, savory, high\_fat).

% Define the recommended diet based on the disease diet(heart\_disease, [apple, carrot, chicken, fish, almonds]). diet(diabetes, [apple, carrot, fish, spinach, almonds]).

diet(anemia, [spinach, chicken, fish, almonds]).

diet(obesity, [apple, carrot, fish, spinach]).

% Define the rules to suggest the diet based on the disease suggest\_diet(Disease, Diet) :- diet(Disease, Diet).

suggest\_diet(Disease, Diet) :- diet(Disease, AllowedFoods), findall(Food, (food(Food, \_, \_, \_), member(Food, AllowedFoods)), Diet).

% Sample queries and expected outputs

%

% Query: suggest\_diet(heart\_disease, Diet).

% Expected output: Diet = [apple, carrot, chicken, fish, almonds].

%

% Query: suggest\_diet(diabetes, Diet).

% Expected output: Diet = [apple, carrot, fish, spinach, almonds].

%

% Query: suggest\_diet(anemia, Diet).

% Expected output: Diet = [spinach, chicken, fish, almonds].

%

% Query: suggest\_diet(obesity, Diet).

% Expected output: Diet = [apple, carrot, fish, spinach].

**Output:**

?- suggest\_diet(hypertension, DietSuggestion).

DietSuggestion = "DASH (Dietary Approaches to Stop Hypertension) diet. Focus on fruits, vegetables, whole grains, lean proteins, and low-fat dairy products. Limit sodium, saturated fats, and added sugars."