% Define vowels

is\_vowel(a).

is\_vowel(e).

is\_vowel(i).

is\_vowel(o).

is\_vowel(u).

% Convert uppercase to lowercase (optional enhancement)

to\_lower(Char, Lower) :-

char\_code(Char, Code),

Code >= 65, Code =< 90, % A-Z

LowerCode is Code + 32,

char\_code(Lower, Lower).

to\_lower(Char, Char) :- % Already lowercase or non-letter

char\_code(Char, Code),

(Code < 65 ; Code > 90).

% Count vowels in a list of characters

count\_vowels([], 0).

count\_vowels([H|T], Count) :-

to\_lower(H, Lower),

is\_vowel(Lower),

count\_vowels(T, Rest),

Count is Rest + 1.

count\_vowels([H|T], Count) :-

to\_lower(H, Lower),

\+ is\_vowel(Lower),

count\_vowels(T, Count).

% Helper to convert string to list of characters

string\_to\_char\_list(String, List) :-

atom\_chars(String, List).

% Main predicate

vowel\_count(String, Count) :-

string\_to\_char\_list(String, CharList),

count\_vowels(CharList, Count).

