```
function I = simpson(f, a, b, n)
% f : the function to integrate
% a, b : the bounds of the integral
% n : number of subdivisions (must be an even number)
if mod(n, 2) ~= 0
    error('The number of subdivisions must be even.');
end
h = (b - a) / n; % Step size
x = a:h:b; % Generate points from a to b with step size h
y = f(x); % Calculate the values of the function f(x) at points x
sum_even = sum(y(2:2:end-2)); % Sum of even-indexed terms
sum_odd = sum(y(3:2:end-1)); % Sum of odd-indexed terms
I = (h / 3) * (y(1) + 4*sum_odd + 2*sum_even + y(end)); % Calculate the
integral
end

% Use this function by defining your function f, the bounds a and b,
% and the number of subdivisions n. For example:
f = @(x) exp(x); % Define your function here
a = 0; % Lower bound
b = 1; % Upper bound
n = 100; % Number of subdivisions
I = simpson(f, a, b, n);
disp(['Approximated integral value: ', num2str(I)]);
```