

```

function PQ = paddedsize(AB, CD, PARAM)
%PADDEDSIZE Computes padded sizes useful for FFT-based filtering.
% PQ = PADDEDSIZE(AB), where AB is a two-element size vector,
% computes the two-element size vector PQ = 2*AB.
%
% PQ = PADDEDSIZE(AB, 'PWR2') computes the vector PQ such that
% PQ(1) = PQ(2) = 2^nextpow2(2*m), where m is MAX(AB).
%
% PQ = PADDEDSIZE(AB, CD), where AB and CD are two-element size
% vectors, computes the two-element size vector PQ. The elements
% of PQ are the smallest even integers greater than or equal to
% AB + CD - 1.
%
% PQ = PADDEDSIZE(AB, CD, 'PWR2') computes the vector PQ such that
% PQ(1) = PQ(2) = 2^nextpow2(2*m), where m is MAX([AB CD]).

if nargin == 1
    PQ = 2*AB;
elseif nargin == 2 & ~ischar(CD)
    PQ = AB + CD - 1;
    PQ = 2 * ceil(PQ / 2);
elseif nargin == 2
    m = max(AB); % Maximum dimension.

    % Find power-of-2 at least twice m.
    P = 2^nextpow2(2*m);
    PQ = [P, P];
elseif nargin == 3
    m = max([AB CD]); %Maximum dimension.
    P = 2^nextpow2(2*m);
    PQ = [P, P];
else
    error('Wrong number of inputs.')
end
end

```