```
function image = my_mig(data,tf,x,z,v,flag)
%
% migration
%
% use:
%   image = my_mig(data,t,xr,xs,z,v)
%
% input:
%   u    -
%       flag = 1, data is given in frequency domain(default, if not specified
%                   by user)
%                - u(f,r,s)
%                is the 3D data volumn of a 2D seismic survy observed at the
%                surface z = 0 in frequency domain, first dimension is frequency,
%                second is receiver, third is source
%                - tf is the frequency coordinate
%
%       flag = 2, data is given in time domain
%                - u(t,r,s)
%                is the 3D data volumn of a 2D seismic survy observed at the
%                surface z = 0 in time domain, the first dimension is time, the
%                second is receiver, the third is source
%                - tf is the time coordinate
%   x     - receiver and coordinate in meters as row vector
%   z     - depth coordinate in meters as column vector
%   v     - velocity in m/s (scalar)
%
% output:
%   image - image as matrix of size length(z) x length(x)

% initialize image
image = zeros(length(z),length(x));

% depth step
dz = z(2) - z(1);

% transform operator
Ft = opDFT(size(data,1));
Ir = opDirac(size(data,2));
Is = opDirac(size(data,3));
F = opKron(Is,Ir,Ft);

ppi = data; % initializa

for iz = 1:length(z)
    ppi = my_step(ppi,tf,x,v(iz,:),dz,flag);
    if flag == 1
        % transform back to  t-s-r domain
        ppishift = ifftshift(ppi,1);
        ppitemp = F'*vec(ppishift);
    else
        ppitemp = ppi;
    end

    % update image
    ppitemp = reshape(ppitemp,length(tf),length(x),length(x));
    %clear ppitemp
    for ix = 1:length(x)
        image(iz,ix) = ppitemp(1,ix,ix);
    end

    ppp = permute(ppitemp,[2,3,1]);
    figure(1);imagesc(real(ppitemp(:,:,33)));colormap(gray);
    figure(2);imagesc(real(ppp(:,:,33)));colormap(gray);
    figure(3);imagesc(real(image));%colormap(gray);
    %colorbar;zlim([1000 5000]);
end
```

```
Error using my_mig (line 32)
Not enough input arguments.
```

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