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Key routines:

1. Smoothing with monotone constraint: `smooth_monotone`
2. Registration: `landmarkreg, register_fd`

Bug in 'smooth_monotone.m' (next page).

fd objects: +/-/mean is OK.

`ginput(1)`: landmarks; \((x, y)\) coordinate of click.
Bug in smooth_monotone: Kmat (=[]) × vector ⇒ error.

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if lambda > 0
    if isempty(fdParobj)
        Kmat = eval_penalty(basisobj, Lfdobj);
    else
        Kmat = getpenmat(fdParobj); %we get ’[]’ at this line!
    end
else
    Kmat = [];
end
-----
if lambda > 0
    if isempty(getpenmat(fdParobj))
        Kmat = eval_penalty(basisobj, Lfdobj);
    end
else
    Kmat = [];
end

Patched function: on my webpage.
1. Finish PCA on natural images.
2. +hint: `col2im`. 
Task-2: registration

1 Take 'FDA: growth’ data (year: 1-18).

2 Steps:
   1 Apply monotone smoothing (growth).
   2 Register the acceleration curves:
      - landmark ($F = 1$): last 0-crossing of acceleration, downwards.
      - continuous: initialized with landmark registration.

3 Solution (checking/if you get stuck): on my website.