Map Stitching Using Linear Models

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## Contents

1 Procedure

1. Install 'imager' , 'svDialogs' packages .

2. Enter file type of screenshot in prompt .

3. Assume SS are named $image\_01, image\_02, ..., image\_12$ (say , at max 30 images)saved at the file location .

4. Save the csv file $new\_data.csv$ in the default r directory.

5. Modify strings $s1, s2$ to contain the path to the image and also include part of the file name $image\_0$ or $image$, former for $image\_01, ..., image\_09$, latter for $image_{10}, ...$.

6. Suitably modify num_of_ss , and set it equal to number of screen shots .

7. Read the data file (containing some pre-specified input) and store the list of screenshots , places , landmarks , x and y coordinates .

8. User will be asked if the screenshot is needed .

9. User will then need to click on a landmark and specify its name (magenta cursor) . Then subsequent clicks will store approximations to the position of the landmark (blue cursor) . Then right click (or ESC in OS X) to stop that process of collecting approximations .

10. Then left click to repeat the process for other landmarks in the same screeen shot and then Right click or ESC to move to next screen shot .

11. Create data frame that will have previously stored info and the newly entered info .

12. The next few lines will fit the model , calculate the summary , plot the residuals and other important plots .

13. Then The checkPlot() function is there which can be used to plot the map points . Then click on the points for which we want to know the landmark name and global coordintes . Right click to stop , net two lines will print the information of those places .

14. Running the next few lines will print the possible influential points .

15. For detecting outliers , the user should observe the residual plots carefully (that have been plotted before) . The influential points can be rechecked . Also , we can consider inter quartile range for finding out possible outlier obsevation numbers .

2 Map
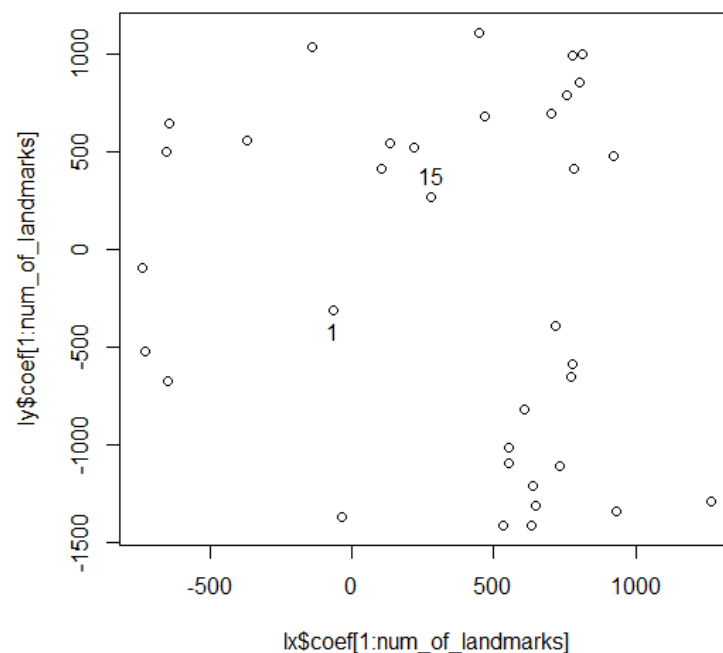

```
> places =checkPlot(ly$coef[1:num_of_landmarks]~lx$coef[1:num_of_landmarks],lab)
> print(lx$coef[places])
  Landmarkamrapali Landmarkisi nursery
         -66.14879          279.57422
> print(ly$coef[places])
  Landmarkamrapali Landmarkisi nursery
          -310.4490           263.6236
```