

CMPS 5443
Capture-Recapture Group Assignment

Due: Thursday, April 20, 2017
25 points

Using your CRC data file as input, you are to run an executable program called CAPJKE to compute the MHJK estimator, and run the mtml/m0ml computation spreadsheets with macros. You create a spreadsheet for the dpm computations.

MHJK: Run the CAPJKE (MHJK) program on the data set (from the capture-recapture forms) to obtain estimates on total number of defects and remaining number of defects. You may only run this on data for 3 reviewers, so use the text file with the name MHJKGp?.txt - I've chosen the reviewer(s) in your group to eliminate for you. Try to figure out why I chose the ones I did, and explain in your report.

MTML/ M0ML : Next execute the Excel MtML and M0Ml macro computations using the data set (from the .xls file) to obtain estimates on total number of defects and remaining number of defects.

Run MTML and M0ML for 4 or 5 reviewers (on the file CRCFormGp?Sp17.xls)

Run the MTML and M0ML (on the file CRCFormGp?Sp17elim.xls)

Follow the directions in the spreadsheet!

DPM: Create the DPM spreadsheets and plot.

DPM (exp): In Excel, open the data file(CRCFormGp?Sp17.xls). Add a column for totals (number of reviewers that found the defect), sort data in descending order of totals and plot. Fit an exponential trend line to the data and look for the x-value where the y-value is just ≤ 0.5 . (Go under trend line options and set to forecast 10 periods.) This is an estimate for total number of defects. Compute the estimate for remaining defects. (Default values for the prompts should work)

DPM (linear): Fit a line to the data and look for the x-value where the y-value is just ≤ 0.5 . This is an estimate for total number of defects. Compute the estimate for remaining defects.

Write up a report and prepare a presentation.

- Create tables for the results you obtained from the different methods (and different number of reviewers) and put the tables in your technical report.
- Analyze and explain your results. Make conclusions.
- Attach the CRC form you originally type up in Excel. Attach a printout of the output window for CAPJKE and printouts of the Excel data sheets for MtML and M0ML and of the Excel charts for dpm curves.

NOTE: You might look back at my slides for CRC to help you write up your analysis and conclusions.