

This README file explains how to reproduce the results for the simulation studies and real-data application in the article “Inference for Optimal Differential Privacy Procedures for Frequency Tables”. All the codes were run on R version 4.0.2.

The compressed data and code file contains three separate files:

1. functions.R
2. simulation_exe.R
3. real_data_exe.R

All functions used to implement simulation studies and real-data applications can be found in functions.R file. Tables and figures in the Section 5 of the article “Simulation studies” can be reproduced by first running functions.R and then simulation_exe.R files.

For the real data application in Section 6 “Analysis of Children’s Early Development and Learning Data”, the data set shall be requested and downloaded from <https://www.icpsr.umich.edu/web/ICPSR/studies/4283> first. We did not include the data set file due to the inter-university consortium for political and social research (ICPSR)’s data re-distribution policy. All the results can be reproduced by running functions.R and real_data_exe.R files.