Steps in life table processing (draft 20-08-2021):

1. Set country (id, name or iso\_code).
2. Read InputFiles: “MORT\_PARAMS”, “MORT\_INPUTS”, “mx1\_crises”.
3. Get country data (download from server or locally). Get (or filter if it´s local) if “Age\_Specific\_Mortality\_Input\_Data” is Abridged (not complete) or Complete (Complete or Abridged, prioritizing) data.
4. Include or exclude Estimates and VR data.
5. Add WPP19 in case left gap is greater than 15 years and no data point could be used there.
6. Validation data: is complete or abridged (checking mainly the ages).
7. Remove zeroes, if the life tables are:
   1. lt: spline interpolation (“monoH.FC”).
   2. nMx: add epsilon (half of min rate rule) in those ages and moving average around it.
8. Split abridged LT with ungrouped first group. Re-label as no error.
9. Filter error data.
10. Select data following:
    1. Removing lonely points, including when are before/after an extended series.
    2. Index hierarchy : "HMD","EuroStat","VR(WPP)","WHO DB","HLD 2020","DYB","GBD 2016","WPP19”.
    3. nrank3 & DataTypeSort (this take in care HLD data for the same TimeMid).
    4. First Complete data. If it was not included, only abridged are selected.
    5. First m(x), then l(x).
    6. First not averaging years in TimeLabel.
    7. Des-overlap with 2% rule on e(0) deviation from linear tendency.
11. Death coverage adjustments: nMx/VR\_completeness for Age>=5
12. Infant adjustments: “adjust\_LT\_under\_five” replace in LT.
13. Smooth LT:
    1. Single age with OANew = 100.
    2. OldAge extrapolation arguments from InputFiles if it is activated.
14. Detect and classify gaps.
15. Interpolate/Extrapolate LT:
    1. Left gap
       1. If any data point is there: Lim-LC
       2. If no data point is there: LC
    2. Middle gap: Lim-LC
    3. Right gap: LC
16. Smooth pattern by age with “MortalitySmooth” package.
17. Add mortality crises (1mx) and rebuilt single LT.
18. Write in InputFile (“life\_table\_age\_sex”, “dd\_selected\_series”, “update\_status”)
19. Make plots
20. Save Rdata
21. Close log.
22. End