This software computes some of the indices introduced in the paper “Combining the intensity and sequencing of the poverty experience: a class of longitudinal poverty indices” by Daria Mendola, Annalisa Busetta and Anna Maria Milito. Please read carefully the software license agreement before the use.

PANEL DATA FORMAT (INPUT)

Panel data must be provided in CSV format, with fields delimited by semicolons.

The first line of the input file is ignored by the program and therefore it can be used to store headers or comments.

All other lines must contain the following fields in this order:

Year (or wave):	4 digit number
Country:	alphanumeric string delimited by double quotes
Household id:	alphanumeric string
Person id:	alphanumeric string
Poverty flag:	1 or 0
Poverty gap:	float

For example, these are the first four lines of a sample input file:

```
Year;Country;Hid;Pid;poor60;PG
1994;"norway";41601;416101;0;0
1995;"norway";41601;416101;0;0
1996;"norway";41601;416101;0;0
```

Person ids are used to identify individuals across year and across households. For each year there must be exactly one observation for each individual. So, if the panel spans 7 years, there must be exactly 7 observations for each individual, one for each year (in other words, there are no provisions for unbalanced panels).

OUTPUT DATA FORMAT

Once calculated, poverty indices and poverty persistence probabilities can be exported to CSV files.

To save memory and processing power poverty indices are calculated and displayed only for those individuals for whom at least 1 year of poverty exists.

Output CSV files contain exactly one observation per line and *do not* have headers. The order of fields in the output files is the following:

PPProbs.txt

- Country
- Low year
- High year
- Population size

Poor in both years

Permanence probability

PIndices.txt

Country

Person id

Poverty sequence

Poverty gaps sequence

Maxspell

Average poverty gap

Sequence effect 1

Sequence effect 2

Sequence effect 3

Sequence effect 4

Sequence effect 5

Emergency effect

Alpha value

SE_EE_1

SE_EE_2

SE_EE_3

SE_EE_4

SE_EE_5

Where:

Sequence effect 1 is:

$$LPI_i^{SE} = \frac{\sum_{j,k \in s^{i*}} (d_{jk} + 1)^{-p_{jk}(o_{jk}+1)} w_{jk}}{\binom{T}{2}}$$

Sequence effect 2 is:

$$LPI_i^{SE} = \frac{\sum_{j,k \in s^{i*}} (d_{jk} + 1)^{-p_{jk}(o_{jk}+1)}}{\binom{T}{2}}$$

Sequence effect 3 is:

$$LPI_i^{SE} = \frac{\sum_{j,k \in s^{i*}} (d_{jk} + 1)^{-(o_{jk}+1)} w_{jk}}{\sum_{g=1}^{T-1} \frac{g}{T - g + 1}}$$

Sequence effect 4 is:

$$LPI_i^{SE} = \frac{\sum_{j,k \in s^{i*}} (d_{jk} + 1)^{-1} w_{jk}}{\sum_{g=1}^{T-1} \frac{g}{T - g + 1}}$$

Sequence effect 5 is:

$$LPI_i^{SE} = \frac{\sum_{j,k \in s^{i*}} (d_{jk} + 1)^{-1}}{\sum_{g=1}^{T-1} \frac{g}{T - g + 1}}$$

SE_EE_1 is the value of the index LPI^{SE_EE} where the sequence effect is the “sequence effect 1”

Similarly for the columns SE_EE_2, SE_EE_3, SE_EE_4, SE_EE_5

Semicolons are used to separate fields in the CSV files. Poverty sequences and poverty gaps sequences are delimited by square brackets and colons are used to separate the elements.