Local Poisson regression

1. Bandwidth choice for the local Poisson regression

Modify the functions `h.cv.sm.binomial` and `loglik.CV` to obtain a bandwidth choice method for the local Poisson regression based on the leave-one-out cross-validation (loo-CV) estimation of the expected likelihood of an independent observation.

Remember that the loo-CV estimation of the expected log-likelihood of an independent observation, when using h as bandwidth, is

$$\ell_{CV}(h) = \frac{1}{n}\sum_{i=1}^{n} \log\left(\widehat{\Pr}_h^{(-i)}(Y = y_i | X = x_i)\right),$$

where $\widehat{\Pr}_h^{(-i)}(Y = y_i|X = x_i)$ is an estimation of

$$\Pr(Y = y_i|X = x_i) = e^{-\lambda_i}\frac{\lambda_i^{y_i}}{y_i!},$$

and

$$\lambda_i = \mathbb{E}(Y|X = x_i)$$

should be estimated by maximum local likelihood using h as bandwidth (for instance, using the function `sm.poisson` from the R package `sm`).

2. Local Poisson regression for Country Development Data

Consider the country development dataset (file `HDI.2017.subset.csv`) containing information on development indicators measured in 179 countries (Source: [Human Development Data (1990-2017)](http://hdr.undp.org/en/data), The Human Development Report Office, United Nations). Variable `le.fm` always takes non-negative values. Define `le.fm.r` as the rounded value of `le.fm`:

```
le.fm.r <- round(le.fm)
```

Fit a local Poisson regression modeling `le.fm.r` as a function of `Life.expec`. Use `sm.poisson` from the R package `sm` with the bandwidth obtained by loo-CV.