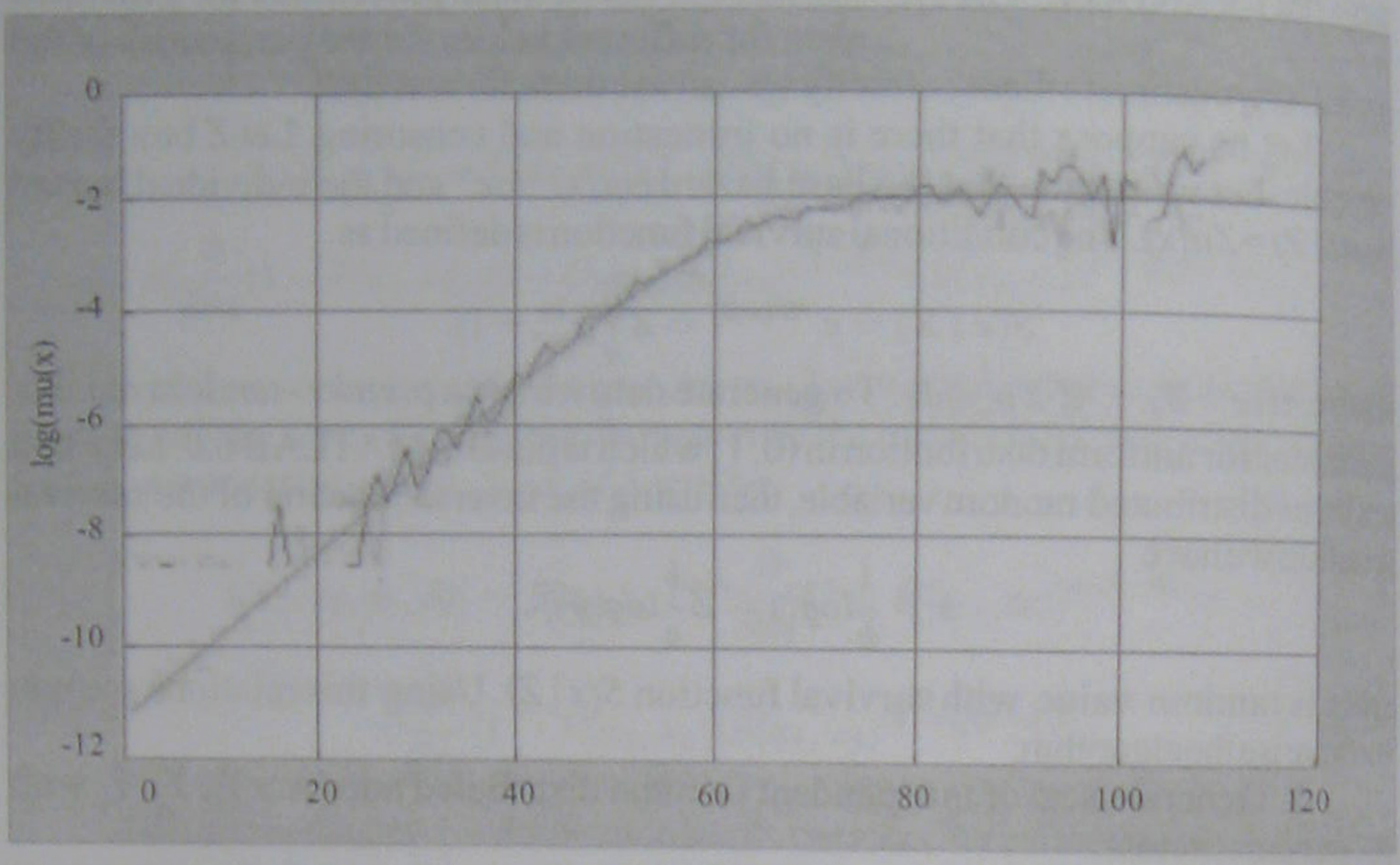

3. Find the values $t_i = abs(y - S(x_i), i = 1 \cdots N$

4. Sort t_i in ascending order and obtain the sets $\{x_{(i)}\}$ and $\{j_i\}$, where j_i is the position of xi before sorting

5. The value x_{j1} is the value which can be used as a random generated number with a survival function $S(x)$ in the interval (x_0, x_1)

The precision of this algorithm depends on the cardinality of the set X, but for big array the result is relatively precise.

7. APPLICATION

As an application the case of the Danish Twin Data[1] can be considered. This register consist of information about the twin couples, born after 1860 in Denmark and is widely used for studying dependencies between related individuals. One can apply the Correlated Frailty Model for these data and the unknown parameters of the model can be estimated. The cases of monozygotic and dizygotic twins as well as the cases of female and male twins will be considered separately.

Let us suppose that there is no truncating but there is censoring of the data. Then we have, according to sex and zygocity the following table:

[1] Kindly placed at our dispose by Max Plank Institute for Demographic Research, 2001.