Survival analysis is a separate statistical area. This paper discusses the~interpretation of basic concepts, principles and methods used and implemented in the software STATISTICA. First, we introduce censoring and ways of characterizing a distribution of survival time. We present Kaplan-Meier estimate of a survival function and also a method of mortality tables. Later, we discuss basic methods of comparison of the survival time distribution in two groups and their suitability for different situations. The paper also deals with application of the survival analysis methods in the financial sector, where we introduce Cox proportional hazards model. Finally, we apply theoretical knowledge to a real data set.