This diploma thesis deals with risk processes. It describes a classical risk process and mentions the ruin probability. A convolution formula and the Beekman convolution formula for calculating the ruin probability are deduced for the classical risk process. The following part of the thesis provides the investigation of the Cram¶er-Lundberg, the Beekman-Bowers and the De Vylder approximation to the ruin probability. The accuracy of approximations is illustrated in two examples. Afterwards, a risk process with random income is studied and a convolution formula for such a process is derived. In an example, the classical risk process is taken as a specic type of the risk process with random income. For such a process, the ruin probability computed by the convolution formula for classical risk process is compared to the ruin probability computed by the convolution formula for the risk process with random income. It is shown that sometimes the ruin probability is undervalued when computed by the convolution formula for classical risk process.