In this thesis we study the issue of mortality projection.We introduce some basic terms related to mortality, describe life tables and special attention is paid to generation life tables. We are interested in an important phenomenon of so-called cohort effect which influences the mortality projection. There are also discussed possible reasons for creation of the cohort effect. We use available data for population of the Czech Republic for looking into existence of the cohort effect in Czech population. For comparison we mention the existence of the cohort effect in other developed countries.We study different approaches mortality model and project.We set up various factors influencing mortality patterns and the way of their analyzing by some scientific branches. Some of the mortality projection methods are described in more detail. The Lee-Carter method is chosen to forecast mortality for population of the Czech Republic in period 2007–2060.