At the beginning of this work we study basic properties of utility functions and connection between their shape and investor's relation to risk. Then we define risk premium and we recall measure of risk aversion. In the second chapter we study classification of utility functions according to the absolute risk aversion measure and we list some basic types of utility functions. In the third chapter we construct investor's utility function. We use values of insurance premium which we get from questionnaire filled by MFF UK students. We use these utility functions in the last chapter. First we define portfolio selection problem and then we find optimal portfolio for different investors.