The purpose of this work is to model the prices of real estate, concretely of Prague flats, which belong to the most important economic indicators. In the theoretical part, the main housing market participants are defined, special features of housing markets are described and most frequently used valuation methods are discussed. Most attention is focused on so called hedonic pricing model, which is applied as a base for the pricing equation in the econometric part. This is carried on various subsets of public available data regarding the characteristics of Prague flats, using ordinary least squares as well as weighted least squares. Several hypotheses about the relationship between the price and the explanatory variables are tested before creating the final model. The results are commented and compared with literature concerned with the same topic in other locations.