This thesis concerns with the polynomial interpolation problem and the rational function reconstruction problem
(Cauchy interpolation, Padé approximation). It does so from the algebraical point of view.
Moreover, it involves some applications of the generalized Chinese remainder theorem (Hermite interpolation,
partial fraction decomposition).
An important theoretical concept regarding the above mentioned problems is the Euclidean algorithm,
which is studied in case of polynomial rings.
The structure of the thesis is based on the book by von zur Gathen and Gerhard called Modern Computer Algebra.
Its exercises are the main content of the thesis. They usually extend the theory involved.