The task of the work is to implement an ER diagram editor for conceptual database modeling. ER diagrams are drawn by using notation which is taught in the course of Database systems at the Faculty of Mathematics and Physics of Charles University. The editor was created as a standard CASE tool. The program includes the mapping from the ER model to the relational model as well. The mapping results in a SQL-92 script for creation of tables in the database system. ISA hierarchy, n-ary relations and multivalued attributes are also supported. Before the mapping, the verification of the ER diagram is made. The work also contains theoretical principles and a comparison with some similar programs from both commercial and academic sphere.