Kentucky CTE

Computer Science: Introduction to Database Design 110211 (2026–2027)

Define a database and its uses. 1	1 Define a database and its uses. 1
Describe the difference between traditional files and databases. 2	2 Describe the difference between traditional files and databases. 2
Define a database management system (DBMS) and describe the services a DBMS provides to its users. 3	3 Define a database management system (DBMS) and describe the services a DBMS provides to its users. 3
Identify and describe the main features of hierarchical, network, and relational database models. 4	4 Identify and describe the main features of hierarchical, network, and relational database models. 4
Demonstrate an understanding of the difference between logical and physical design. 5	5 Demonstrate an understanding of the difference between logical and physical design. 5
Model a realistic business application using a technology-independent data model. 6	6 Model a realistic business application using a technology-independent data model. 6
Design and implement a da rel	7 Design and implement a database using the relational model, with an emphasis on lata integrity and security. 7

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an emphasis on data integrity and security. 7	
Define and use the normalization process to further refine the relational table definitions. 8	8 Define and use the normalization process to further refine the relational table definitions. 8
Demonstrate an understanding of the database administration function. 9	9 Demonstrate an understanding of the database administration function. 9
Define and be able to use data definition language, data manipulation language, and instructions that apply relational algebra. 10	10 Define and be able to use data definition language, data manipulation language, and instructions that apply relational algebra. 10
Demonstrate an understanding of distributed database systems. 11	11 Demonstrate an understanding of distributed database systems. 11
Evaluate and select an appropriate DBMS for a given application. 12	12 Evaluate and select an appropriate DBMS for a given application. 12