SQL Database Fundamentals (345)

Description
Demonstrate knowledge of fundamental database development and administrative concepts including SQL scripting. Competencies addressed in this event will mandate the contestant use a high end database product such as MS Sql Server™, the focus of this event, in order to acquire the necessary skills; however, skills sets addressed are transferable to any database product such as Oracle™ or MySql™.

Eligibility
Any student member may enter this event.

Contestant must supply
Sharpened No. 2 pencils, pens, ruler
Cordless calculator: Electronic devices will be monitored according to ACT standards. See NLC
     Calculator Guidelines. **Contestants who violate this rule will be disqualified.**
Published and/or unpublished non-electronic written reference materials

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No equipment, supplies, or materials other than those specified for an event will be allowed in the testing area.
No previous Business Professionals of America tests and/or sample tests or facsimiles thereof (handwritten, photocopied, or keyed) may be taken into the testing area. <u>Violation of this rule will result in disqualification.</u>

Competencies

- Identify various types of databases
- Create and employ tables, rows, columns
- Create and understand roll of keys
- Understand and create indexes
- Identify relationship types
- Define relational integrity
- Understand and employ the role of constraints
- Determine data relationships
- Identify normal forms and normalize to 3NF
- Understand and employ SQL syntax
- Understand the importance of data types and when to use them
- Understand SQL Server™ schemas and data dictionaries

- Understand/use DDL commands such as CREATE, DROP, ALTER database
- Add primary and foreign key constraints
- Understand/use DML commands such as INSERT, SELECT, UPDATE, DELETE
- Select data from multiple tables using the WHERE clause
- Use different JOIN types
- Use SQL UNION and INTERSECT
- Use aggregate and scalar functions
- Create and use views
- Use and understand transactions
- Understand database security concepts
- Understand how to back up databases
- Understand the use Stored Procedures

Method of evaluation
Objective Test

Length of event
No more than sixty (60) minutes testing time

Entries
Each state is allowed five (5) entries