Quiz 5

Database Programming

SYNTHETIC DATA GENERATION AN ANALYSIS

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CyberWidgets

- CyberWidget is an innovative, all-in-one cybersecurity solution, developed by Professor Synthetic Grey as part of his Advanced Cognitive Intelligence Research initiative.

- CyberWidgets are specifically tailored to safeguard Pace University's computer networks against evolving threats.

- CyberWidgets incorporate leading edge network security tools combined with a cognitive AI system to ensure the confidentiality, integrity, and availability of the University's critical information assets.

- CyberWidgets are referred to by different colors depending on the specific area of the network to which they are assigned.

- CyberWidgets are randomly created, perform their tasks, and die in response to a penetration of the network. The attributes that define the CyberWidget have different values in response to the type of task they will perform.

Task 1

- Create the stored procedure cyberwidgetDBBuilder which builds the **cyberwidgetDB** database that contains the following tables.

- The widget table should maintain referential integrity with the widgetregistry table.

Task 2
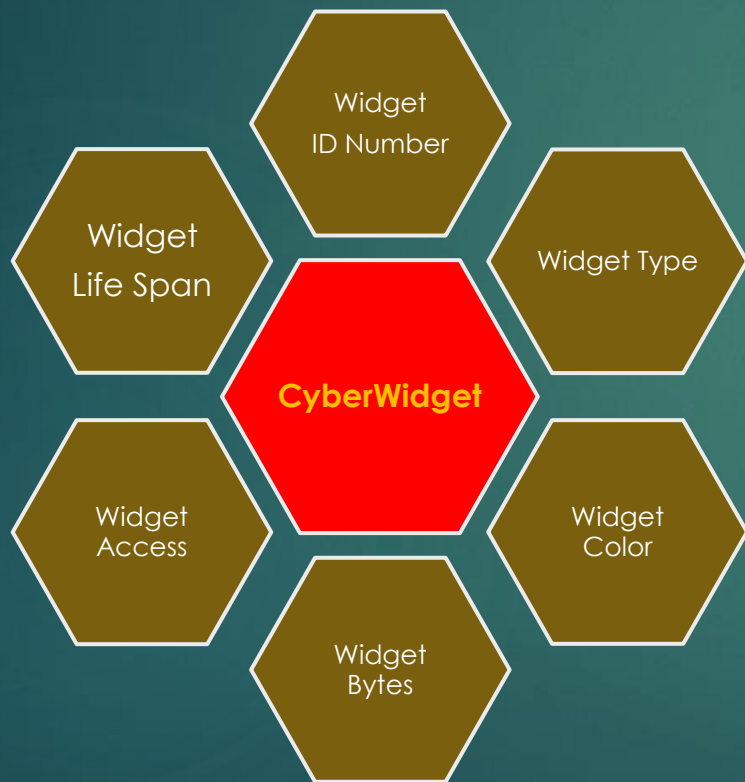
- Create the stored function buildRedWidget that returns a random Red CyberWidget as a JSON object based on the following rules.

Red CyberWidget Build Specifications	
Widget ID Number	'R-' concatenated with a randomly generated 3-digit number and a two lowercase letters (a-z)
Widget Type	A randomly selected Widget Type (see Widgets Table)
Widget Color	Red
Widget Bytes	A random integer between 1028 and 4096
Widget Access	A randomly selected Widget Access (see Widgets Table)
Widget Life Span	A random integer between 1 and 4