**API**

**State:**

An API is an application programming interface. It is a software intermediary that allows two applications to talk to each other.

**Elaborate:**

In other words, APIs allow for multiple applications to work together. APIs give access to applications to access data from third party sources that boost the functionality of an application. APIs can also aid in hiding complexity for a programmer to their application without a full background knowledge of how some tasks or functions work to their entirety. This, in part, can extend the functionality of a programmer's application by incorporating complex or simple functions into their application. Finally, an API can also act as a security gatekeeper. APIs can give access to data security methodology that protects the user and/or programmer data.

**Exemplify:**

For example, when coding a mobile app for iOS or Android, Google has created an API called Firebase that allows the programmer to sync and store data in real time. This API reduces the complexity of managing servers for novice programmers who may not understand managing and writing servers. It also offers login authentication to provide more security for users. Finally, it provides a way for the programmer to access, manage, and store data in a simple way that applies to the app.

**Illustrate:**

A metaphor to illustrate an API is a librarian. The consumer comes into the library and has a limited knowledge of the layout of where books are located, how books are stored, if a book is available or not, and other operations that the consumer may need while at the library. The librarian acts and the API, to interact with the consumer and translate their request of, for example, finding a book, whether it be by name, authors name, an associated storage label, or by suggestion. The librarian guides the consumer to interface the library with any of the needs that the consumer may have, which helps simplify the consumer's interaction with the library interface.