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Access Control

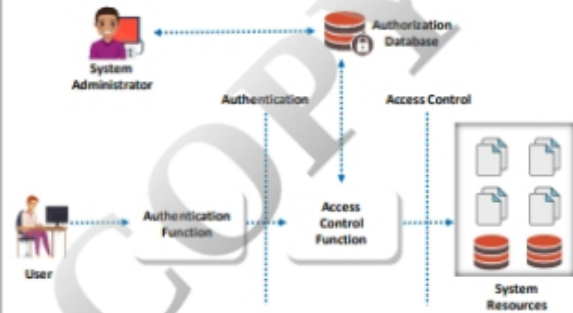


- Access control is the **selective restriction** of access to a place or other system or network resource
- Protects information assets** by determining who can and cannot access them
- Involves user identification**, authentication, authorization, and accountability

Access Control Terminology

Subject	Refers to a particular user or process which wants to access the resource
Object	Refers to a specific resource that the user wants to access such as a file or any hardware device
Reference Monitor	Checks the access control rule for specific restrictions
Operation	Represents the action taken by the subject on the object

Access Control Principles



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Types of Access Control



Discretionary Access Control (DAC)

- Permits the user who is granted access to information to decide how **to protect the information** and determine the desired **level of sharing**
- Access to files is **restricted to users and groups** based upon their identity and the groups to which the users belong



Mandatory Access Control (MAC)

- Does not permit the end user **to decide who can access the information**
- Does not permit the user to **pass privileges** on to other users, as system access could then be circumvented



Role-based Access

- Users can be assigned **access to systems, files, and fields on a one-by-one basis**, whereby access is granted to the user for a particular file or system
- Can simplify the **assignment of privileges** and ensure that individuals have all the privileges necessary to perform their duties



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