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CYSE 200T – Write Up

# Write Up : The CIA Triad

*Confidentiality, Integrity, and Availability, the CIA triad, is for keeping an organization's information safe. Understanding the CIA Triad and the difference between authentication and authorization makes sure that data is kept updated, protected, and handled by authorized people.*

## Significance, Authentication, & Authorization

The CIA Triad dictates and guides how organizations keep and protect information. Confidentiality keeps data private, Integrity allows for reliability and accuracy, and Availability allows authorized people to access data when needed.

Authentication and authorization is what helps reinforce confidentiality. Authentication checks who someone is while authorization chooses what that someone can see or do. When both are used correctly and effectively, breaches, unauthorized access, and stealing or viewing information is prevented.

**Authentication** : Confirms who a user is; passwords, factor authentication, security questions

**Authorization** : Determines what the user can do, see, or access after authentication

If an employee logs into a database, they will go through authentication confirming they are who they say they are, and authorization allows them to see the parts of the database they are entitled to.

## CIA Triad Core Components

### **Confidentiality**

Confidentiality is about making sure only the right people can perform certain actions, can see, or use certain information. Access controls, passwords, and 2 factor authentication are some of the ways to keep data confidential but organizations can also enforce encryption and employee training to help further protect their information.

### **Integrity**

Integrity keeps information accurate and unaltered by the wrong people. Digital signatures and data backups are ways to keep information reliable. Integrity also ensures information that an organization relies on stays correct from when it is input until it is not needed.

### **Availability**

Availability means information and systems are accessible when needed. Backups, disaster recovery plans, and regular maintenance help keep information and systems solid in operation. When backups are enabled and a system or server goes down or is interfered with, then the backups can allow employees to keep working while having all previous information or operations.

# Conclusion

Being straightforward but impactful, the CIA Triad is useful for protecting information. Confidentiality keeps information private, Integrity ensures accuracy, and Availability allows accessibility. This triad combined with authentication and authorization can benefit an organization beyond the standard, better protecting their information, systems, and users / employees from cyber threats that can happen.

## References

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