### **Replication & Fault Tolerance**



Bowdoin

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### **Passive Replication**



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## **Active Replication**



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## **Gossip Architecture**



#### **Network Partitions**



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### **Fault Tolerance**



"A distributed system is one in which the failure of a computer you didn't even know existed can render your own computer unusable."

- Leslie Lamport

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#### Redundancy



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#### **Three Byzantine Generals**



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## **Faulty Commander**



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## **Four Generals**



# **Faulty Commander (four generals)**



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