# Maintaining Consensus

**Stephen Haunts**
LEADER, DEVELOPER, SPEAKER AND TRAINER

@stephenhaunts www.stephenhaunts.com

# Overview

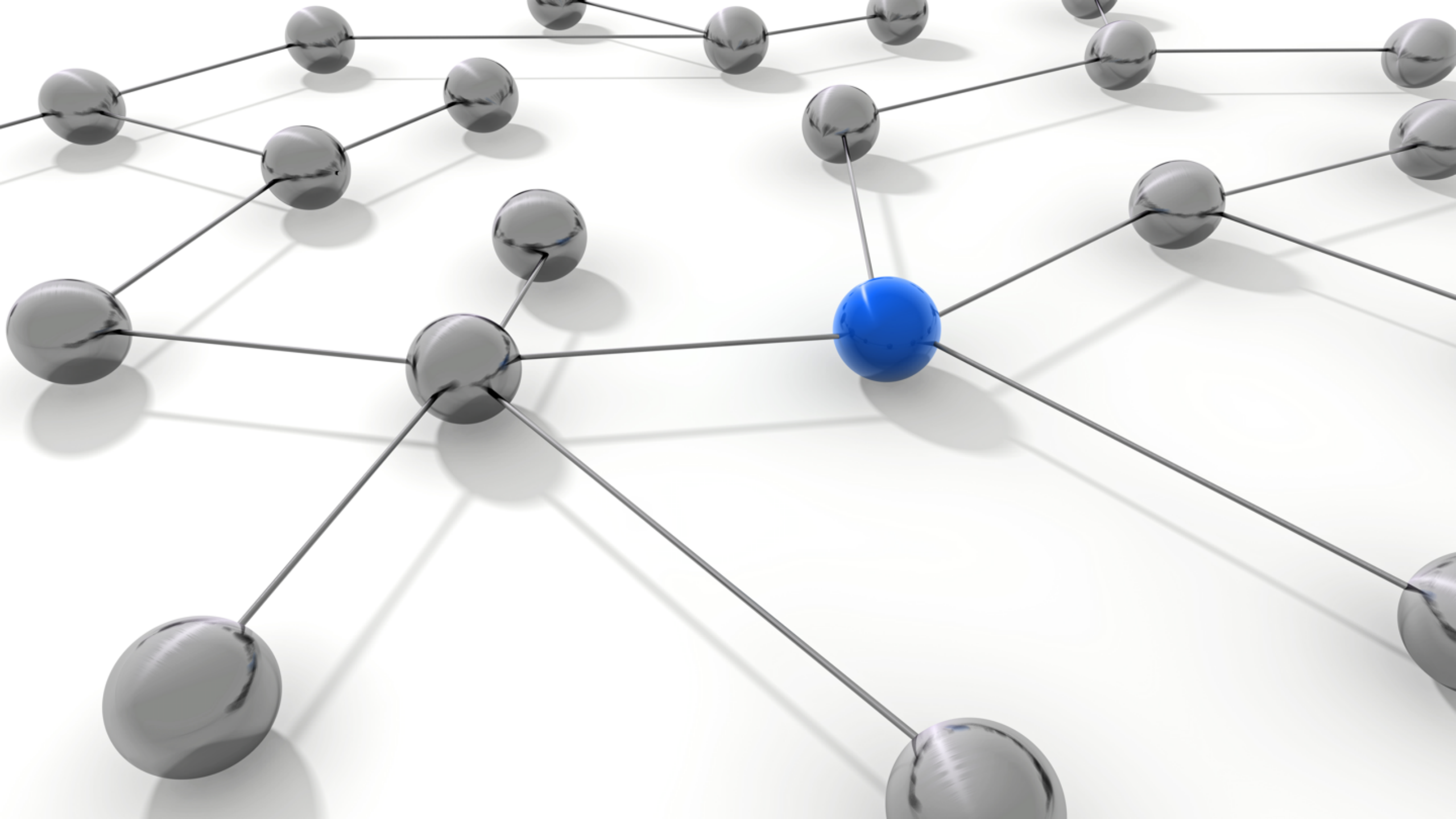
Maintaining consensus

Unambiguous chain of transactions

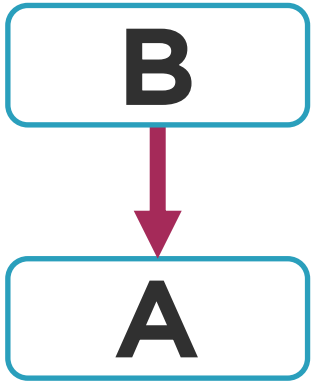
# The Challenge with Consensus

**Verify blocks that were created by peers**

**Mine blocks by solving proof of work puzzle**



# Longest Chain



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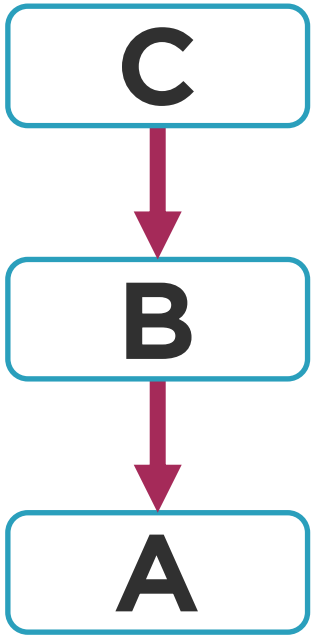

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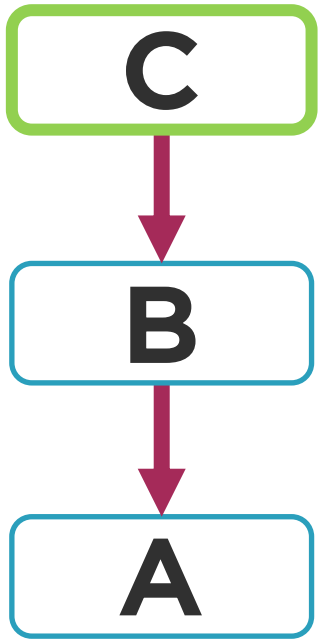

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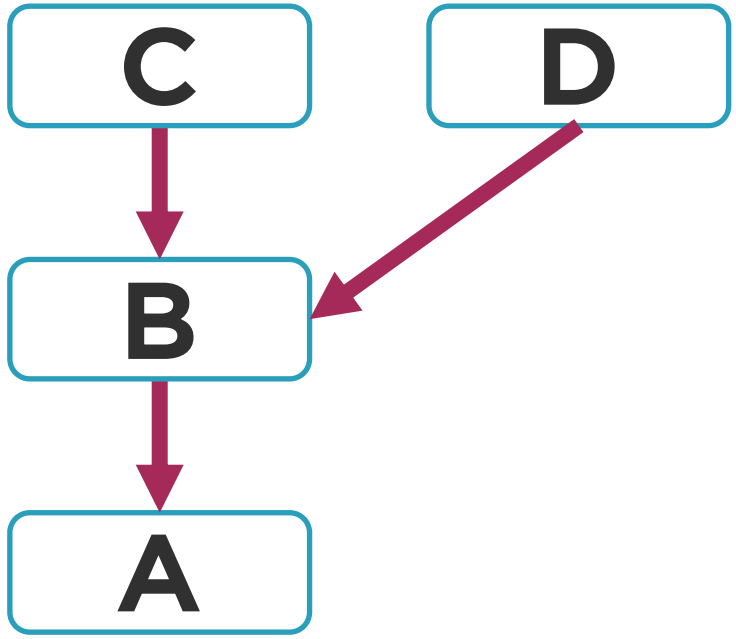

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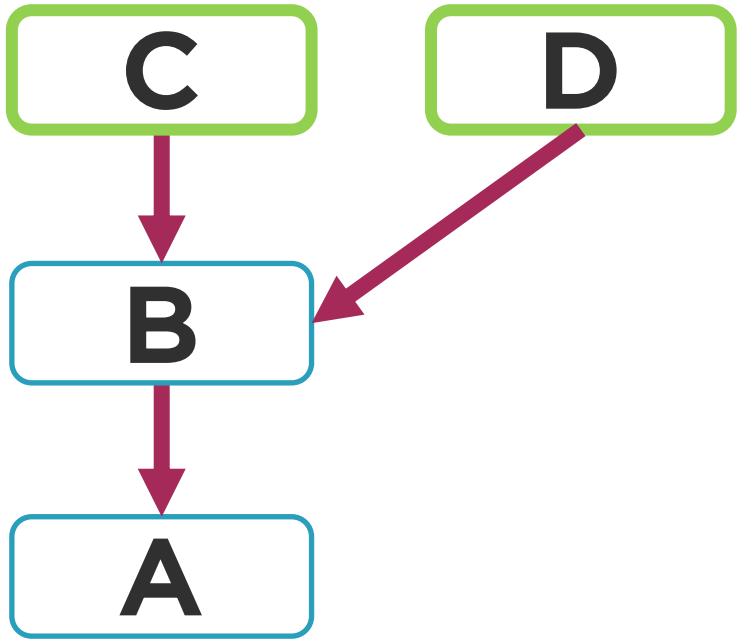

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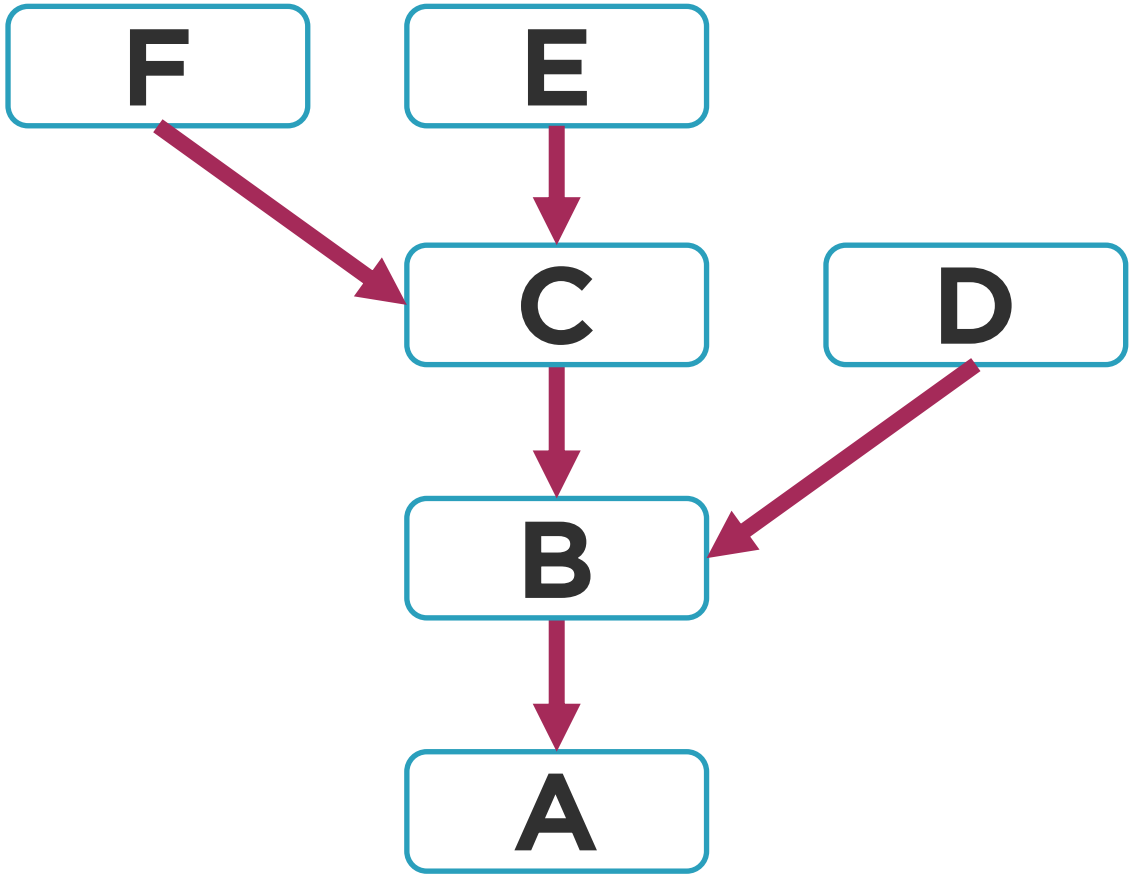

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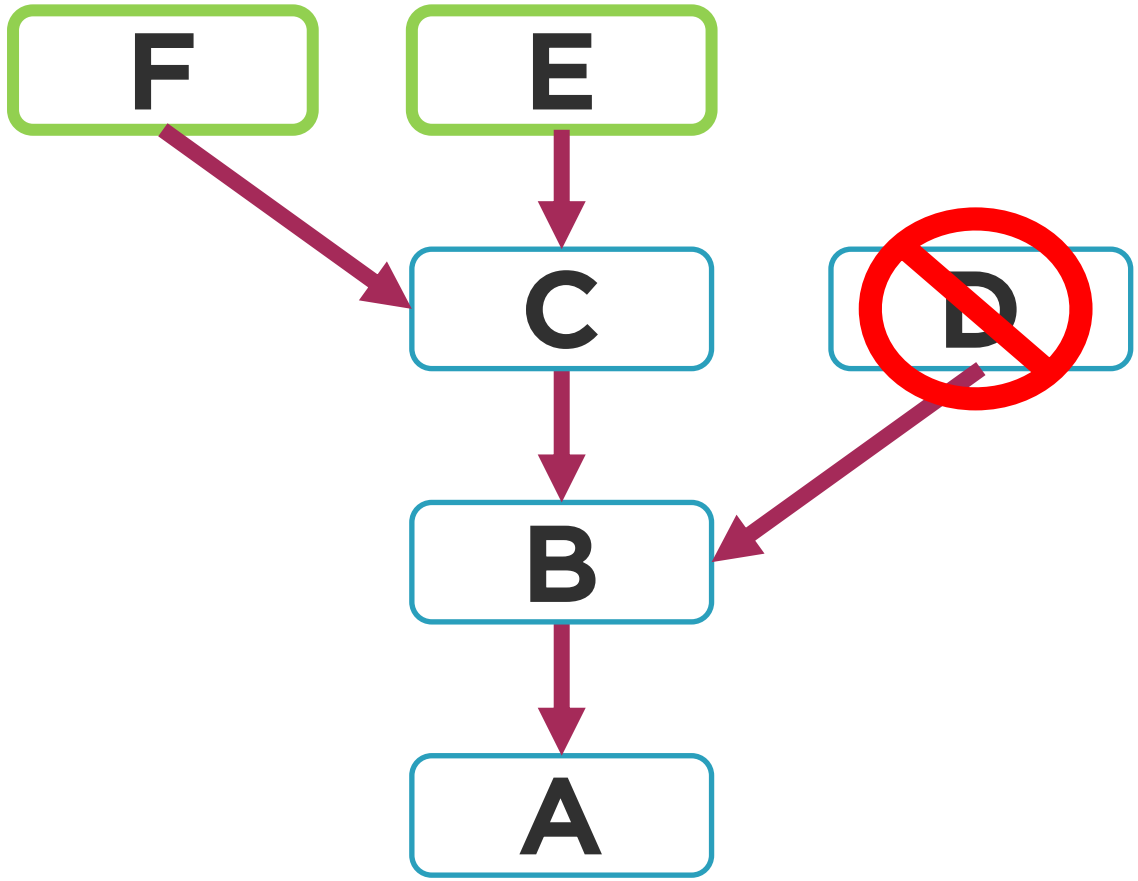

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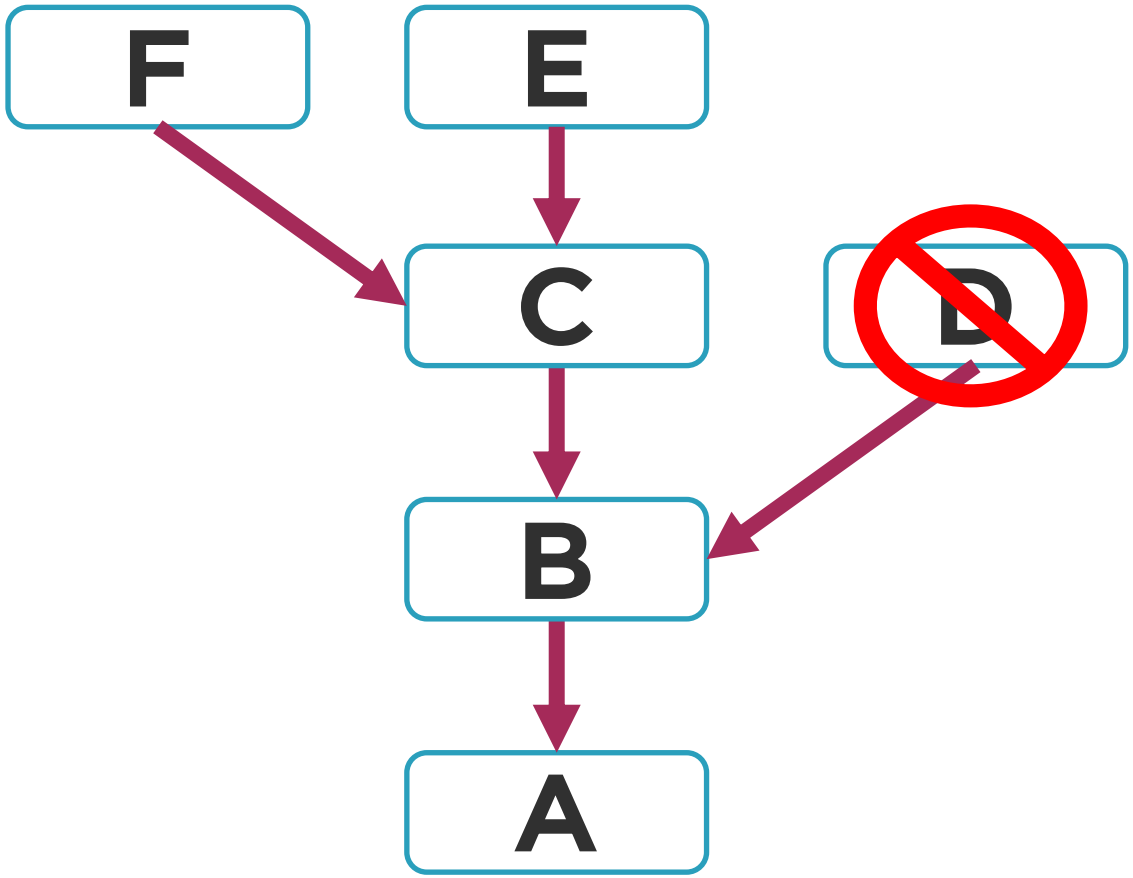

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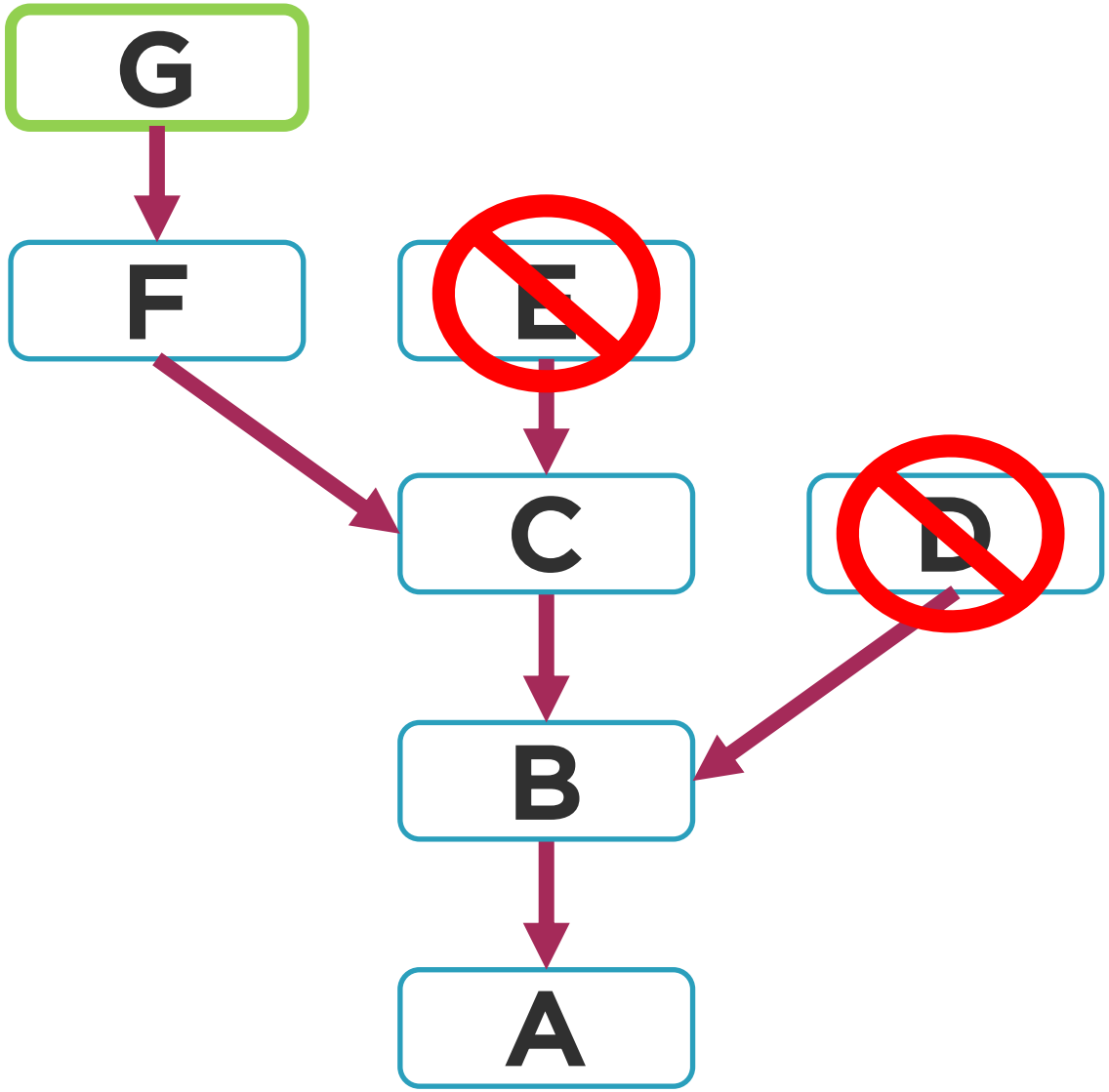

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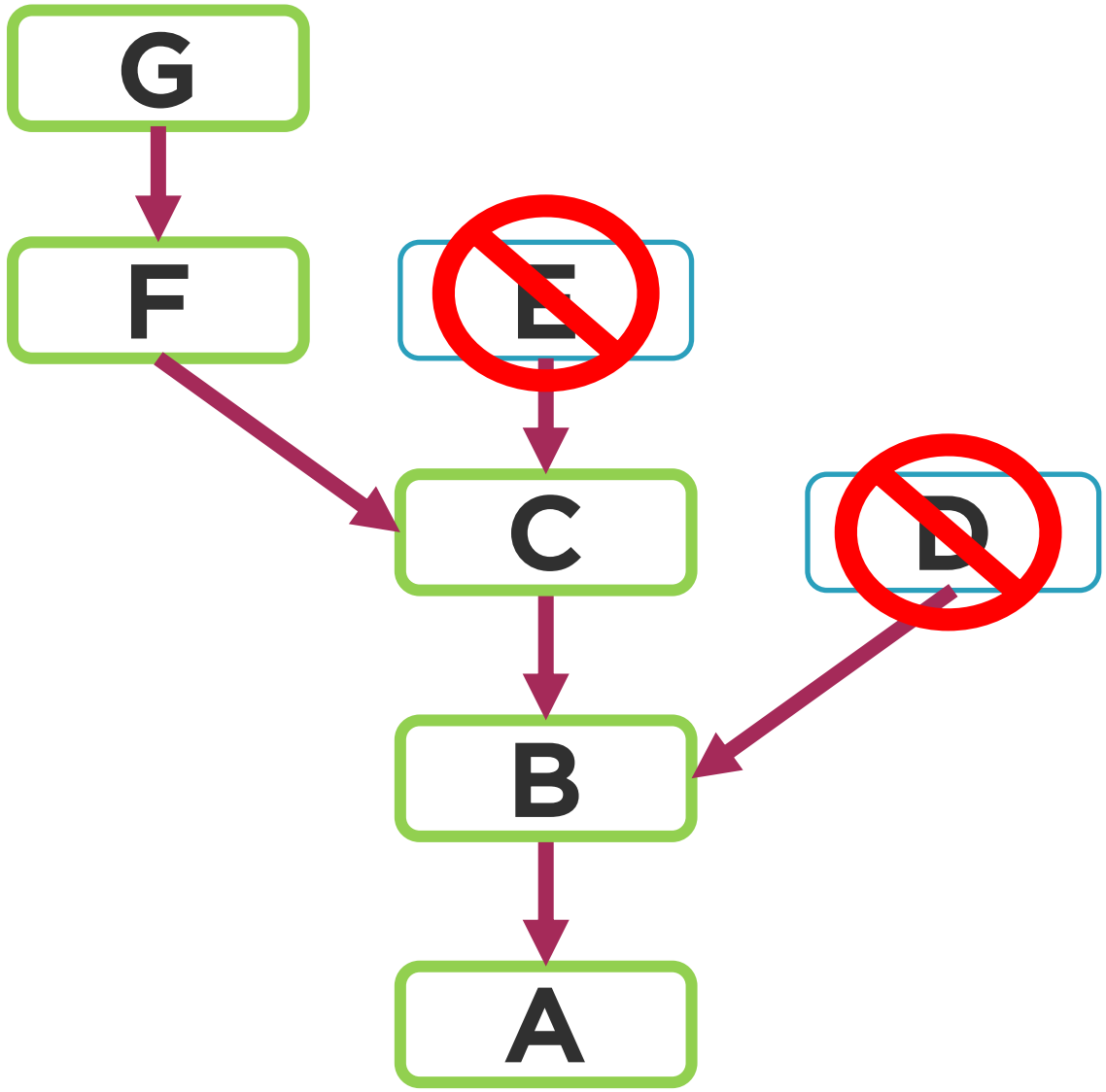

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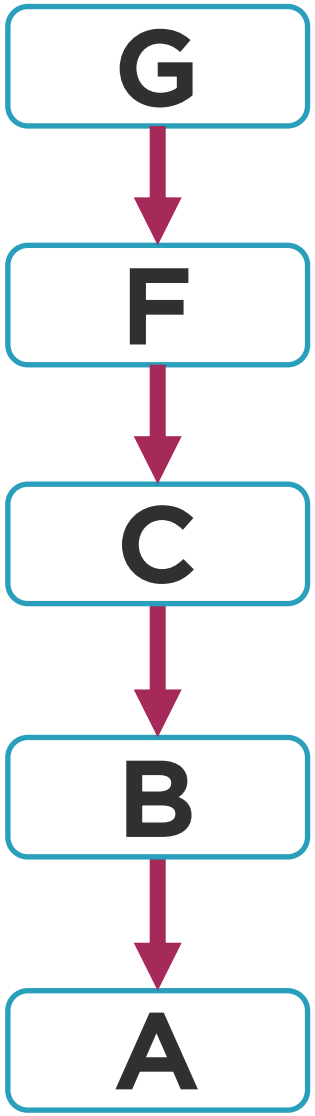
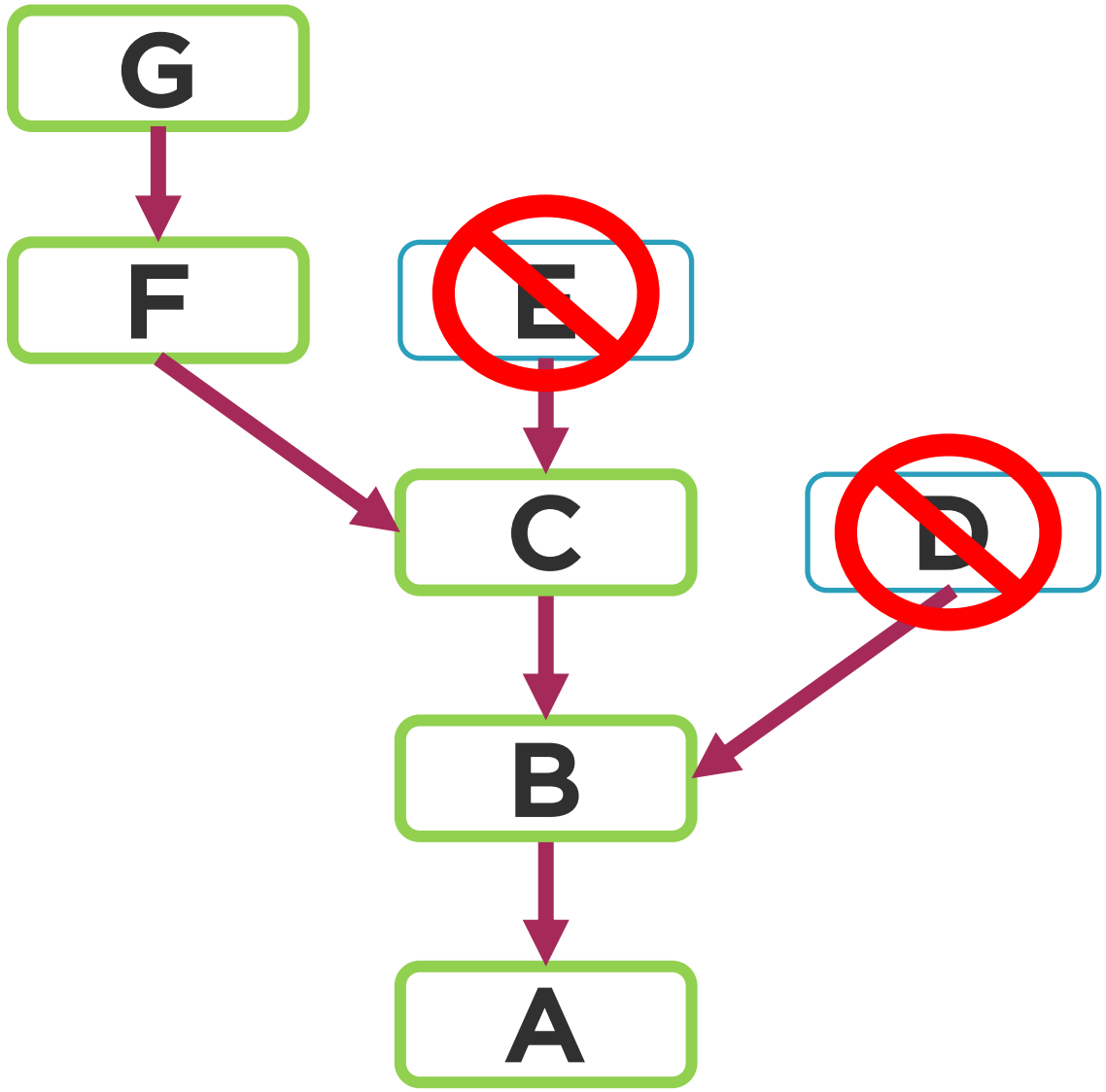


# Longest Chain Consequences

**Orphaned blocks**

**Reclaiming mining rewards**

# Orphaned Blocks and Transactions



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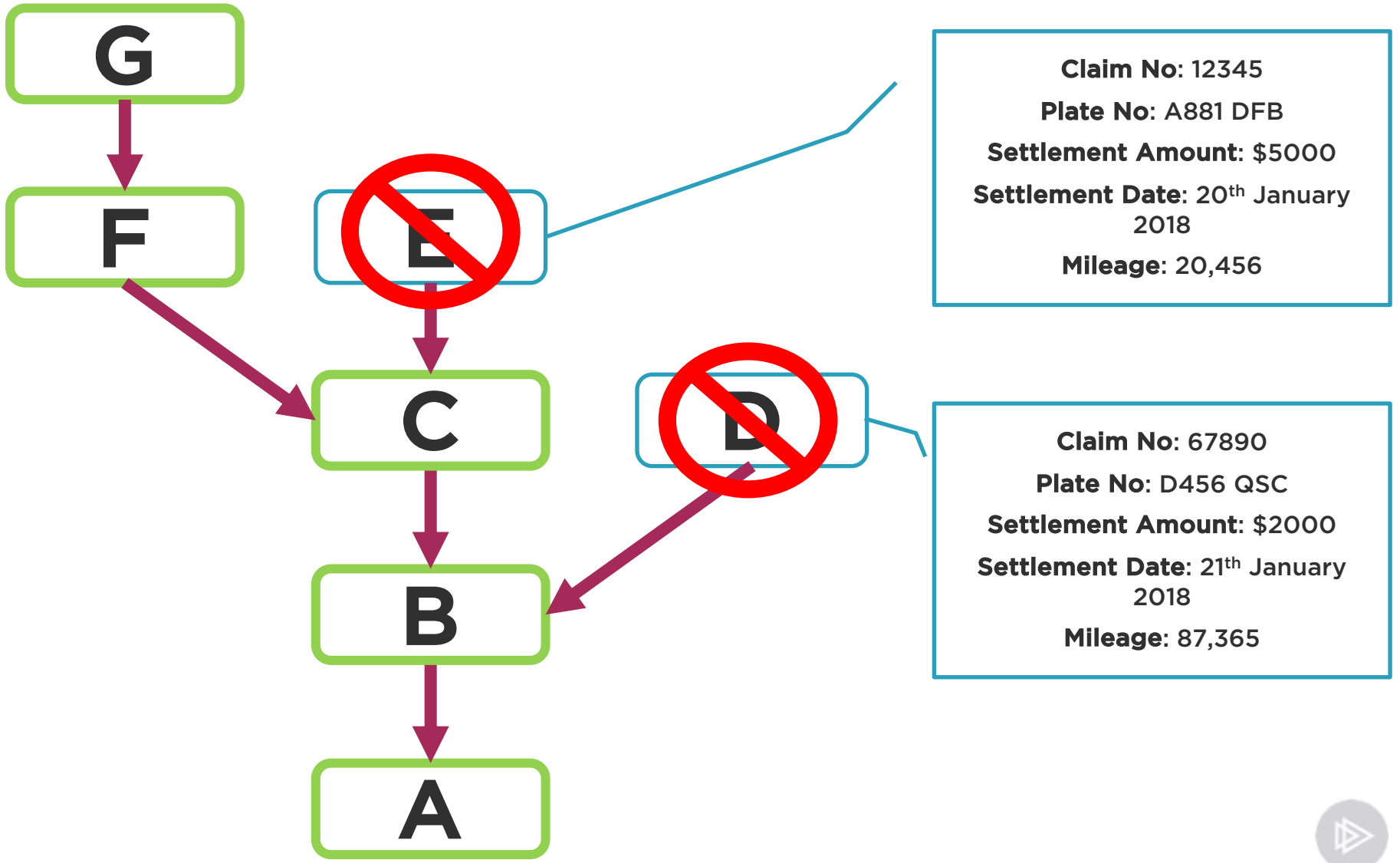

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**If a block is orphaned, the mining reward is reclaimed**

# Summary

Nodes compete to create blocks

Nodes communicate blocks to the network

Forks can be created in the Blockchain

Nodes pick the longest chain

Can result in orphaned blocks

When orphaned, mining rewards reclaimed