Anomaly Detection System in Blockchain
Prototype: Double Spending Attack Simulation

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Blockchain Playground - Balances

Key	Value
Khurram	-10.0
Shahzad	10.0
DefaultMiner	1.0

Blockchain Chain Snapshot (First 3 Blocks)

Key	Value
Block 0 - Hash	000436f270b6f066753e...
Block 0 - PrevHash	0
Block 0 - Nonce	450
Block 0 - Transactions	0
Block 1 - Hash	000235b4d447de0369ea...
Block 1 - PrevHash	000436f270b6f066753e...
Block 1 - Nonce	15836
Block 1 - Transactions	2

Blockchain Growth Chart

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Blockchain Growth - Transactions per Block
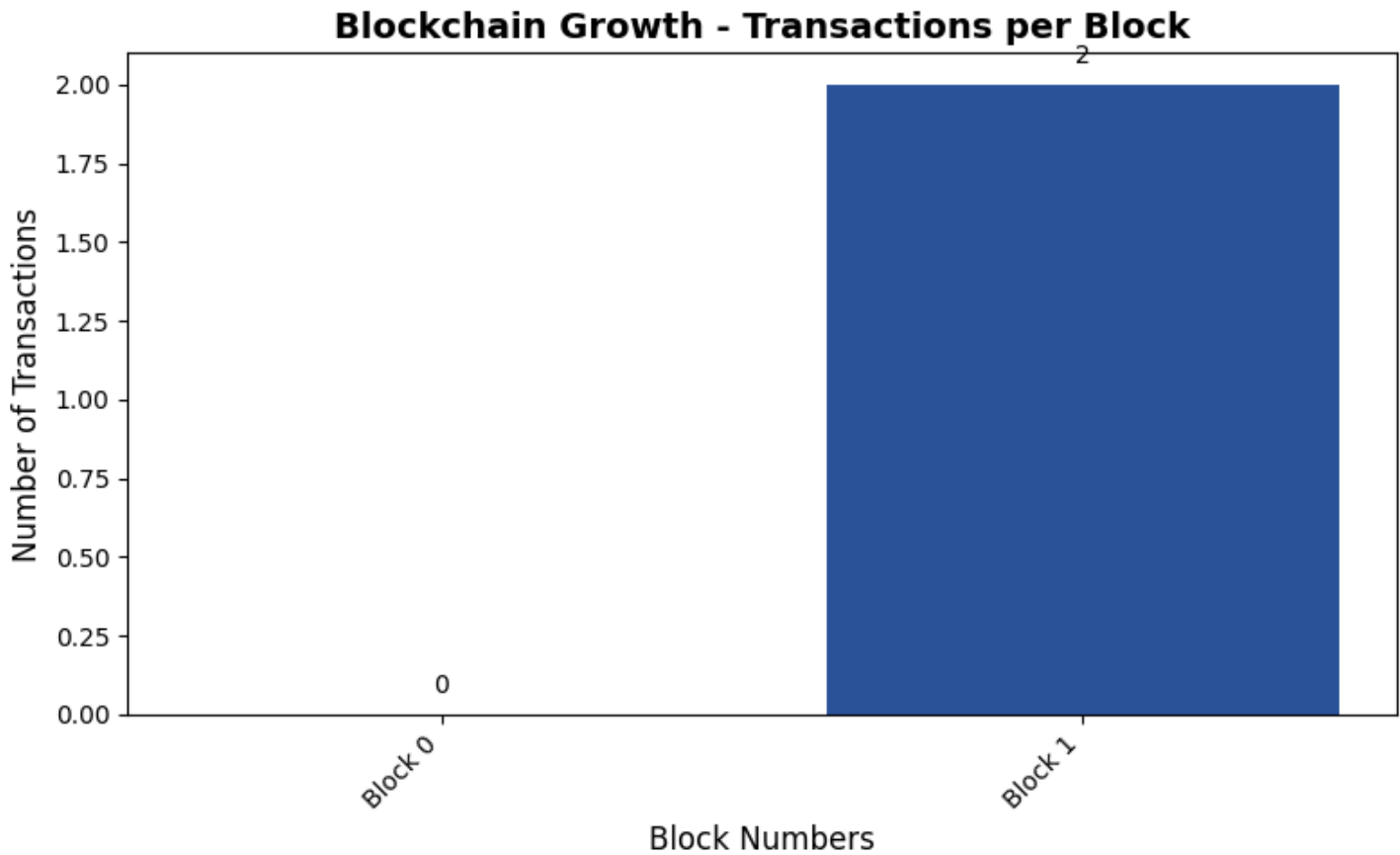
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Recent Transactions

- Khurram -> Shahzad: 10.0 coins

Mining Information

Total Blocks:	2
Pending Transactions:	1
Current Difficulty:	3
Miner Reward:	1.0 coins

P2P Network Status

Connected Peers:	1
Node Address:	http://127.0.0.1:5000
Network Status:	Active

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Double Spending Attack Results

Attack Configuration

Attacker:	Raja Imtiaz
Private Blocks Mined:	2
Amount:	10.0 coins
Hash Power:	30%
Success Probability:	50.0%

Attack Results

Attack Outcome: FAILED

Attack Steps

Step 1: broadcast_honest_tx

Step 2: private_mined_blocks (Count: 2)

Step 3: broadcast_private_blocks

Step 4: consensus_results

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SimBlock Simulation Summary

| Key	Value
Attack Conclusion	Attack Successful!
Attack Successful	Yes
Attack Probability	100.00%
Total Blocks	4
Avg Block Time	24.97 ms
Forks Detected	1
Total Miners	4

Attack Simulation Analysis

Double-Spending Attack: Successful

The attacker successfully executed a double-spending attack.

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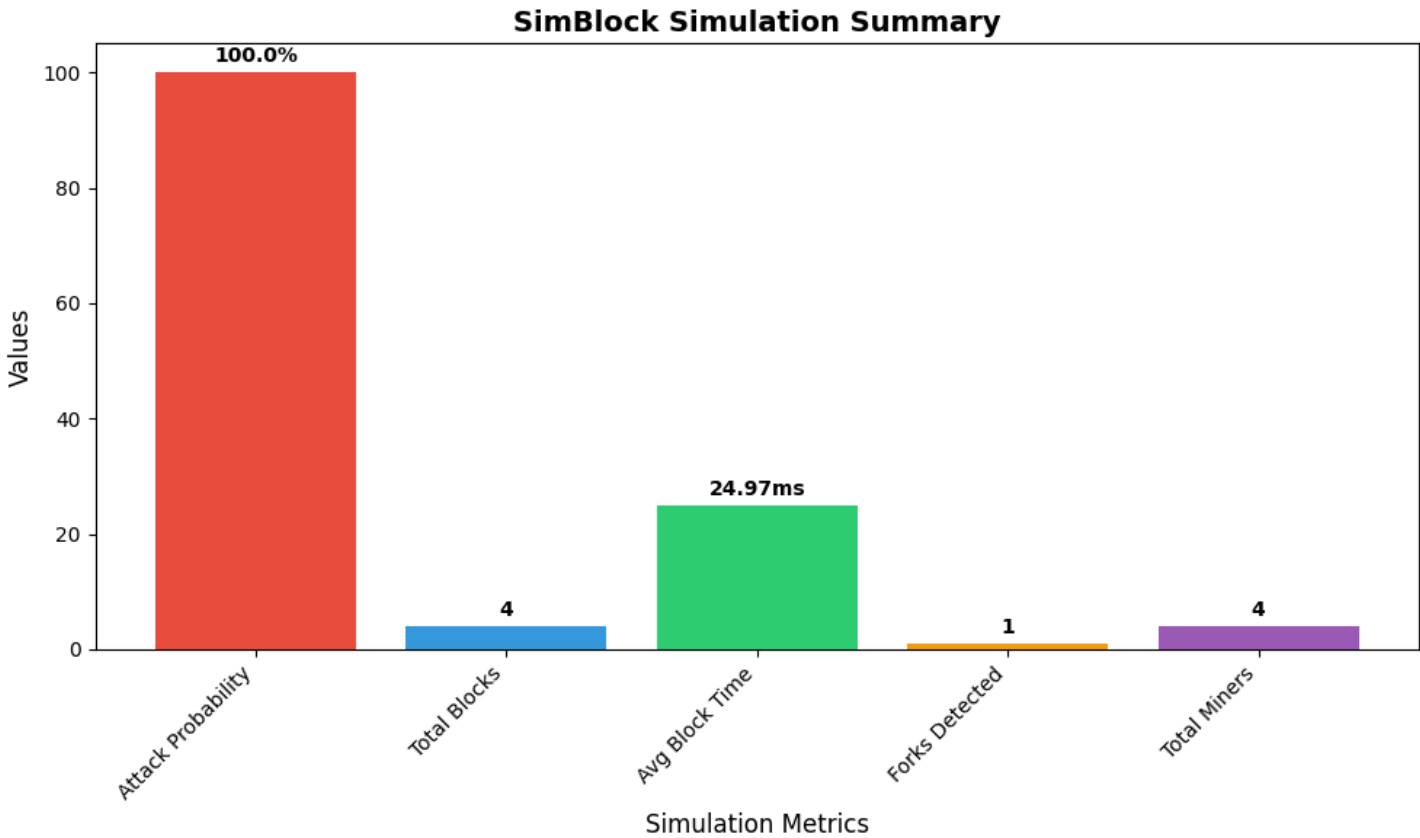
Block Distribution Analysis:

Attacker Blocks: 4 (100.0%)

Honest Blocks: 0 (0.0%)