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# BLOCKCHAIN TECHNOLOGY LAB

## (20CP406P)

LAB ASSIGNMENT - 1

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B.Tech in Computer Science and Engineering Dept.,  
Pandit Deendayal Energy University,  
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**Roll No.: 19BCP080**

**Branch: Computer Engineering**

# Lab Assignment 1

**Aim:** Understanding and Exploring Blockchain Demo with the Help of Tools

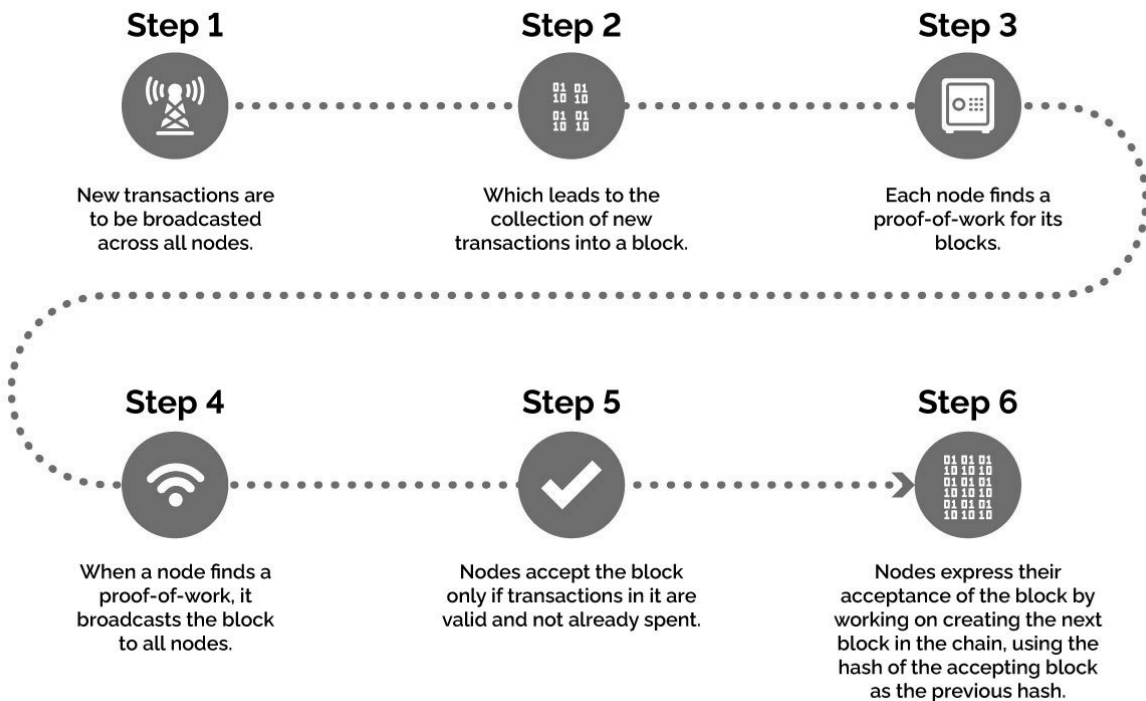
**Tools:** <https://guggero.github.io/blockchain-demo/#!/blockchain>

## Introduction:

A blockchain is essentially a distributed database of records or public ledger of all transactions or digital events that have been executed and shared among participating parties. Each transaction in the public ledger is verified by consensus of a majority of the participants in the system. And, once entered, information can never be erased. The blockchain contains a certain and verifiable record of every single transaction ever made. To use a basic analogy, it is easy to steal a cookie from a cookie jar, kept in a secluded place than stealing the cookie from a cookie jar kept in a market place, being observed by thousands of people.

Bitcoin is the most popular example that is intrinsically tied to blockchain technology. It is also the most controversial one since it helps to enable a multibillion-dollar global market of anonymous transactions without any governmental control. Hence it has to deal with a number of regulatory issues involving national governments and financial institutions.

# How does Blockchain work?



Source: <https://invozone.com/blog/guide-to-develop-blockchain-apps/>

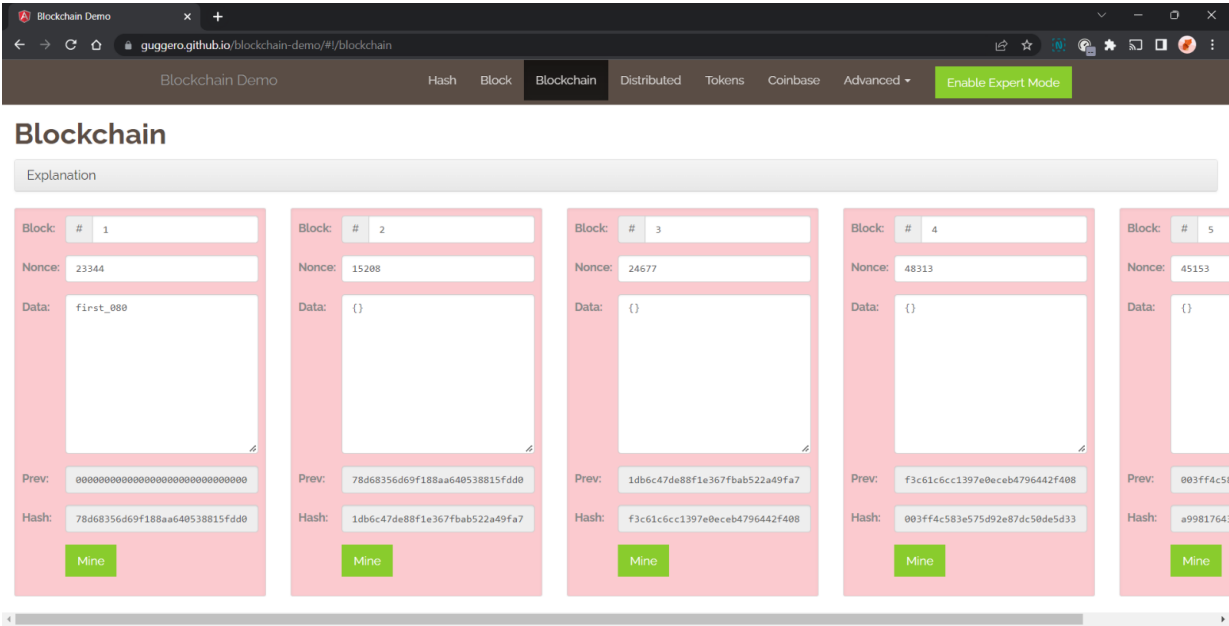
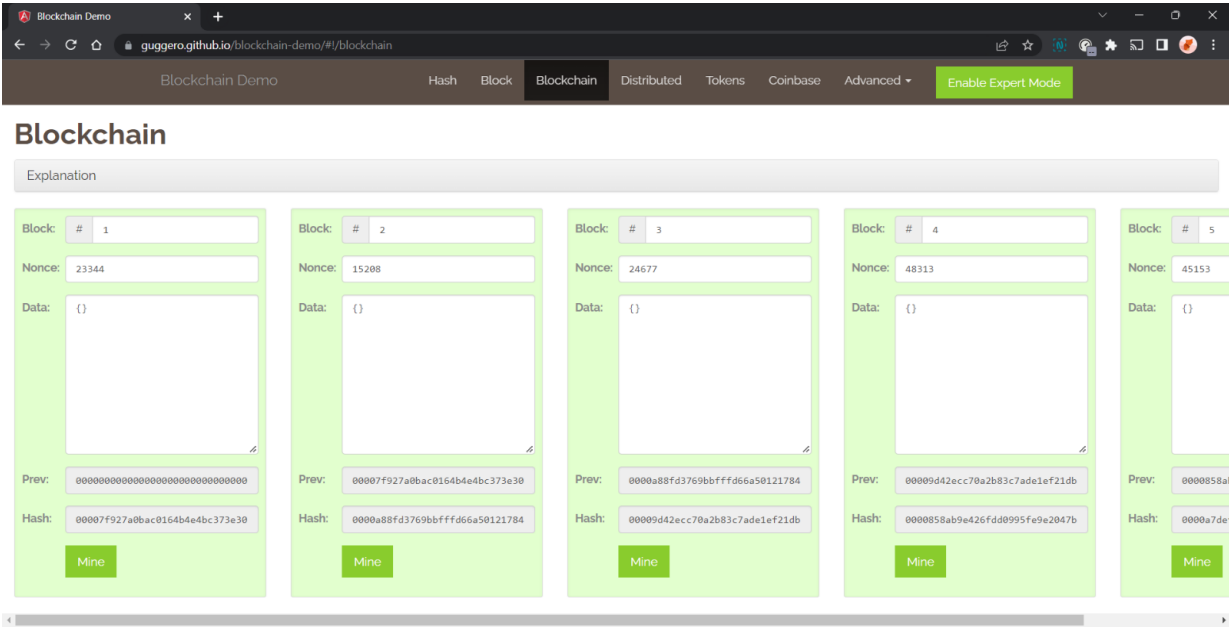
## Applications of Blockchain Technology:

Here are some common applications of Blockchain:

- It is used to create a secure and transparent digital ledger of all transactions.
- It allows you to create a tamper-proof record of academic achievement that is accessible to all students and teachers.
- It is used for creating a more efficient system for trading securities.
- Lenders use blockchain to execute collateralized loans through smart contracts
- Using blockchain technology to record real estate transactions can provide a more secure and accessible means of verifying and transferring ownership.
- Use for keeping data like Social Security number, date of birth, and other identifying information on a public ledger.

- Blockchain technology is also used in the logistics industry as it helps to track items as they move through a logistics or supply chain network.

Blockchain Demo:



Blockchain Demo

guggero.github.io/blockchain-demo/#/blockchain

Blockchain Demo

Hash

Block

Blockchain

Distributed

Tokens

Coinbase

Advanced

Enable Expert Mode

Blockchain

Explanation

Block: # 1

Nonce: 152132

Data: first\_000

Prev: 00000000000000000000000000000000

Hash: 0000c614ecd94b73fe3564c5fc530d

Mine

Block: # 2

Nonce: 15208

Data: {}

Prev: 0000c614ecd94b73fe3564c5fc530d

Hash: f4a24fcd98dc2ced59dbccf3da484

Mine

Block: # 3

Nonce: 24677

Data: {}

Prev: f4a24fcd98dc2ced59dbccf3da484

Hash: dadece0865dcba3d54ca0bcf966fd

Mine

Block: # 4

Nonce: 48313

Data: {}

Prev: dadece0865dcba3d54ca0bcf966fd

Hash: fb9f7c0df0febaf6cae569559c7105

Mine

Block: # 5

Nonce: 45153

Data: {}

Prev: fb9f7c0df0febaf6cae569559c7105

Hash: db6527521

Mine

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Explanation

Block: # 1

Nonce: 152132

Data: first\_000

Prev: 00000000000000000000000000000000

Hash: 0000c614ecd94b73fe3564c5fc530d

Mine

Block: # 2

Nonce: 15208

Data: second\_000

Prev: 0000c614ecd94b73fe3564c5fc530d

Hash: 2bd9ebcc7562f09e3baf9675f55d33

Mine

Block: # 3

Nonce: 24677

Data: {}

Prev: 2bd9ebcc7562f09e3baf9675f55d33

Hash: 1472bec49781e8fb01807192322611

Mine

Block: # 4

Nonce: 48313

Data: {}

Prev: 1472bec49781e8fb01807192322611

Hash: e3478222e26e963084a7856b651278

Mine

Block: # 5

Nonce: 45153

Data: {}

Prev: e3478222e26e963084a7856b651278

Hash: d1fe87061

Mine

Blockchain Demo

guggero.github.io/blockchain-demo/#/blockchain

Blockchain Demo

HashBlockBlockchainDistributedTokensCoinbaseAdvancedEnable Expert Mode

# Blockchain

Explanation

Block: # 1

Nonce: 152132

Data: first\_080

Prev: 00000000000000000000000000000000

Hash: 0000c614ecd94b73fe3564c5fc530d

Mine

Block: # 2

Nonce: 25980

Data: second\_080

Prev: 0000c614ecd94b73fe3564c5fc530d

Hash: 00004a88a41e320561b0a6b7de51d7

Mine

Block: # 3

Nonce: 24677

Data: ()

Prev: 00004a88a41e320561b0a6b7de51d7

Hash: 1adcc9122964a2ff88737bd21082a0

Mine

Block: # 4

Nonce: 48313

Data: ()

Prev: 1adcc9122964a2ff88737bd21082a0

Hash: a2317f7b079e8f755c77dbdb8c1870

Mine

Block: # 5

Nonce: 45153

Data: ()

Prev: a2317f7b079e8f755c77dbdb8c1870

Hash: fb90ed251

Mine

Blockchain Demo

guggero.github.io/blockchain-demo/#/blockchain

Blockchain Demo

HashBlockBlockchainDistributedTokensCoinbaseAdvancedEnable Expert Mode

# Blockchain

Explanation

Block: # 1

Nonce: 152132

Data: first\_080

Prev: 00000000000000000000000000000000

Hash: 0000c614ecd94b73fe3564c5fc530d

Mine

Block: # 2

Nonce: 25980

Data: second\_080

Prev: 0000c614ecd94b73fe3564c5fc530d

Hash: 00004a88a41e320561b0a6b7de51d7

Mine

Block: # 3

Nonce: 24677

Data: third\_080

Prev: 00004a88a41e320561b0a6b7de51d7

Hash: 7427ee59d2a9a3597613c153bca9ea

Mine

Block: # 4

Nonce: 48313

Data: ()

Prev: 7427ee59d2a9a3597613c153bca9ea

Hash: bfa159f6c221a5595b8dad6e2c6ce1

Mine

Block: # 5

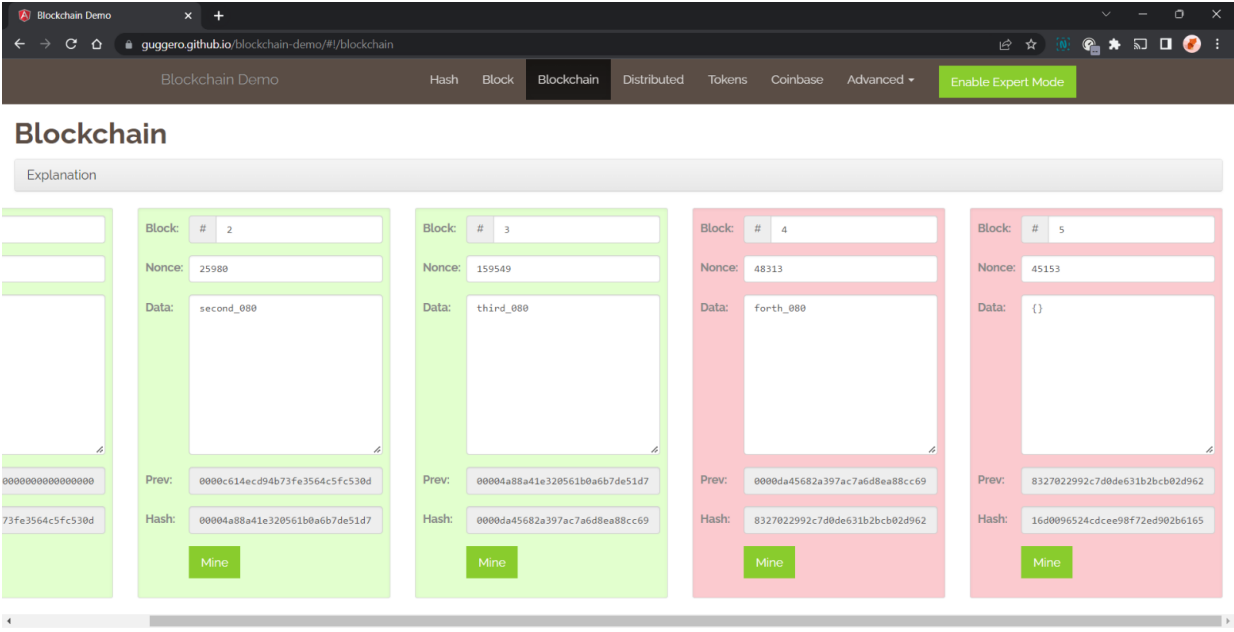
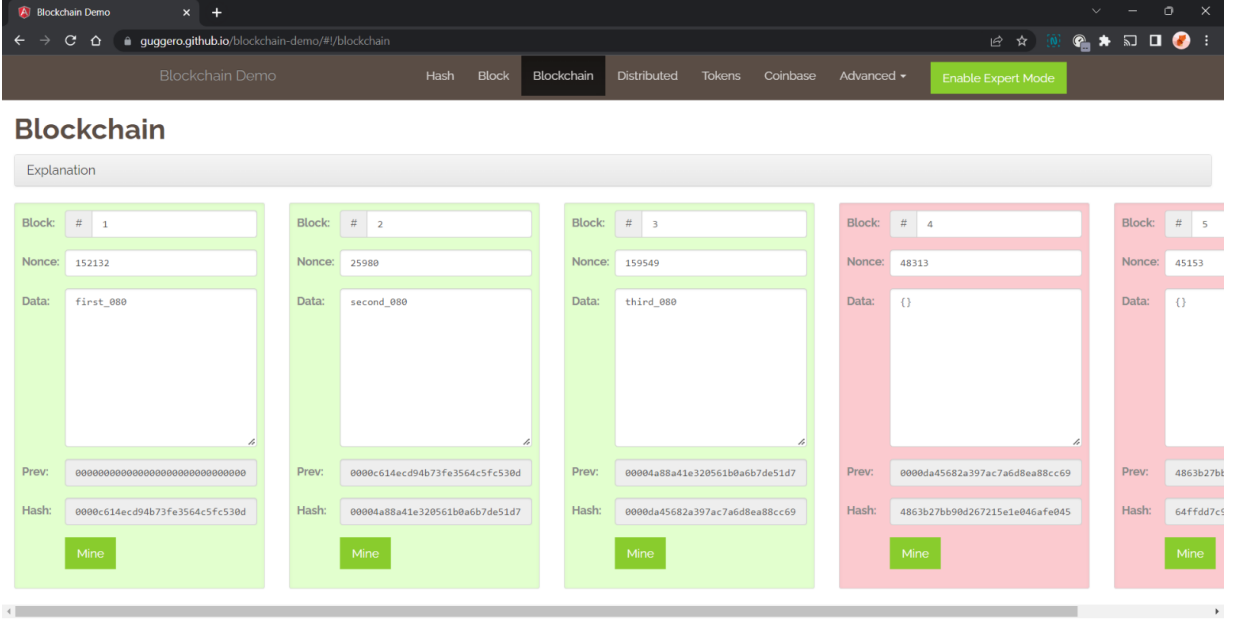
Nonce: 45153

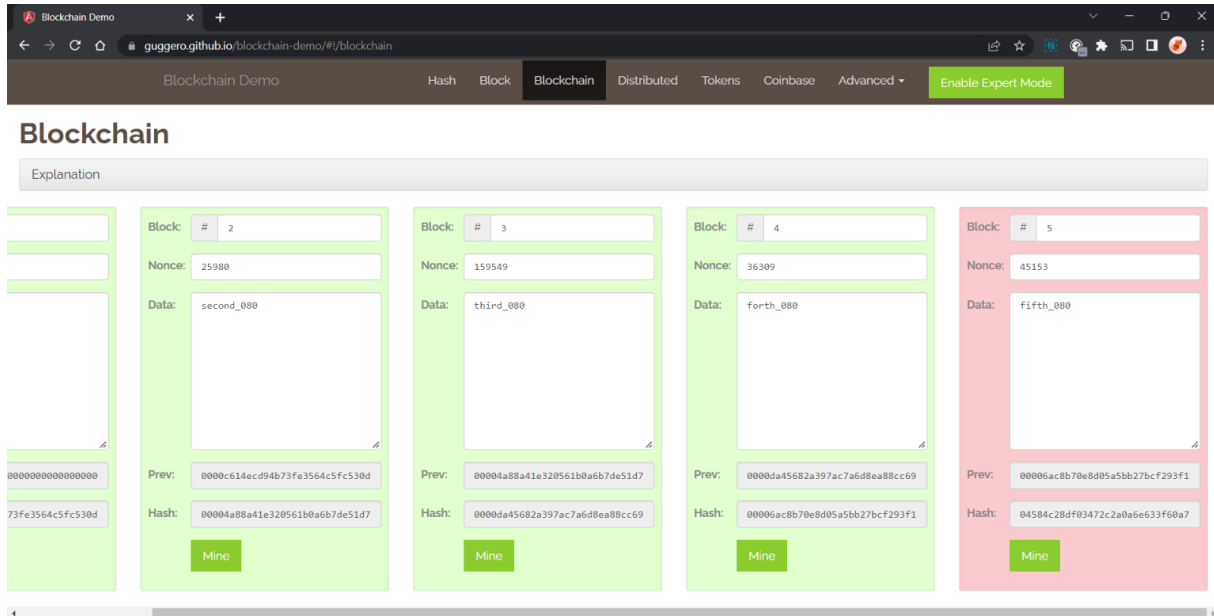
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Prev: bfa159f6c221a5595b8dad6e2c6ce1

Hash: 5894a6754

Mine







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