	School: .... Campus: ....
(logo) Centurion UNIVERSITY Shaping Lives... Empowering Communities...	Academic Year: .... Subject Name: .... Subject Code: ....
	Semester: .... Program: .... Branch: .... Specialization: ....
	Date: ....

Applied and Action Learning
(Learning by Doing and Discovery)

Name of the Experiement : Hash Your First Block – Blockchain Basics and Setup

Objective/Aim:

The objective of hashing the first block in a blockchain is to create a unique and immutable identifier for that block, ensuring the integrity and security of the blockchain.

Apparatus/Software Used:

- Laptop/PC
- Website: https://andersbrownworth.com/blockchain/block

Theory/Concept:

- In this lab, we learn how blockchain stores data in blocks linked by cryptographic hashes.
- Each block contains data, a timestamp, and the hash of the previous block, ensuring immutability. Hashing (e.g., SHA-256) converts block data into a fixed-size string, making it tamper-evident—any change alters the hash and breaks the chain.

Procedure:

Step1: In the blockchain demo site there are given input fields such as: block number, nonce, data. These fields represent the contents of a block.

Block

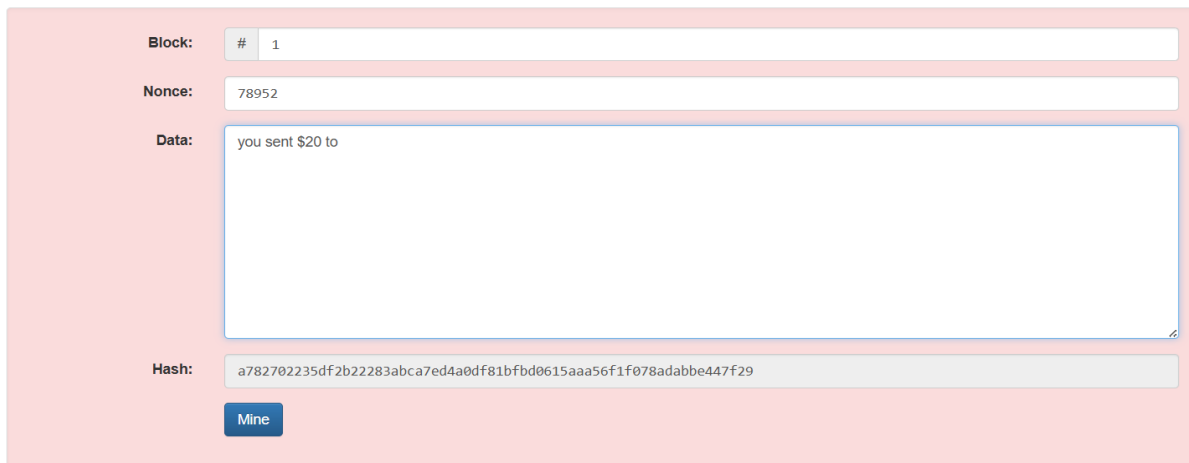|	
Block:	# 1
Nonce:	72608
Data:	
Hash:	0000f727854b50bb95c054b39c1fe5c92e5ebcfa4bcb5dc279f56aa96a365e5a

Mine

Step2: Now we mine the data by adding some data into the block . When I add some data into my block then we see some changes in our block Like colour and hash of the block in change to red ,this is because of Avalanche Effect.

Block

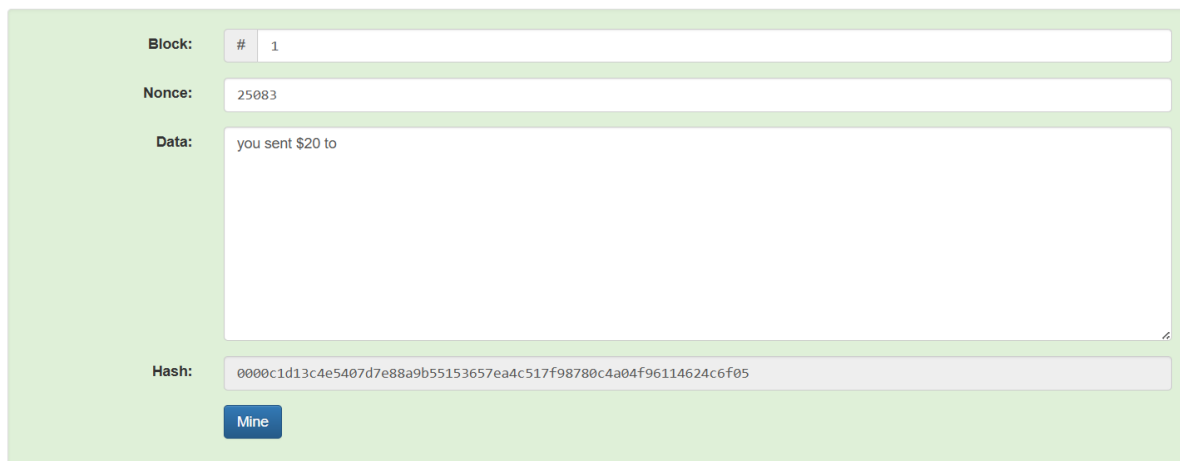|	
Block:	# 1
Nonce:	78952
Data:	you sent $20 to
Hash:	a782702235df2b22283abca7ed4a0df81bfbd0615aaa56f1f078adabbe447f29

Mine

Step3: Now if we click on Mine button we will see the some changes in Hash and its colour.

Block

Block:	# 1
Nonce:	25083
Data:	you sent $20 to
Hash:	0000c1d13c4e5407d7e88a9b55153657ea4c517f98780c4a04f96114624c6f05

Mine

Observation :

We created and hashed my first block successfully. The generated hash changed whenever the block data was modified, showing how blockchain maintains data integrity.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	50		

Signature of the Student:

Name :

Regn. No. :

Signature of the Faculty:

Page No............

* *As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.