Centurion UNIVERSITY Support Live	School:
	Academic Year: Subject Name: Subject Code:
	Semester: Program: Branch: Specialization:
	Date:
	Applied and Action Learning (Learning by Doing and Discovery)

Name of the Experiement: SHA-256 in Action - Cryptographic Hashing

\* Coding Phase: Pseudo Code / Flow Chart / Algorithm

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- 1.Start
- 2. Open brave browser and search for any SHA-256 online tool link
- 3. Type your message in the input box.
- 4. Tool will automatically generate hash for your message.
- 5. Observe the generated 256-bit hash
- 6. Change the input slightly and observe the change in the hash
- 7.End

## \* Software used

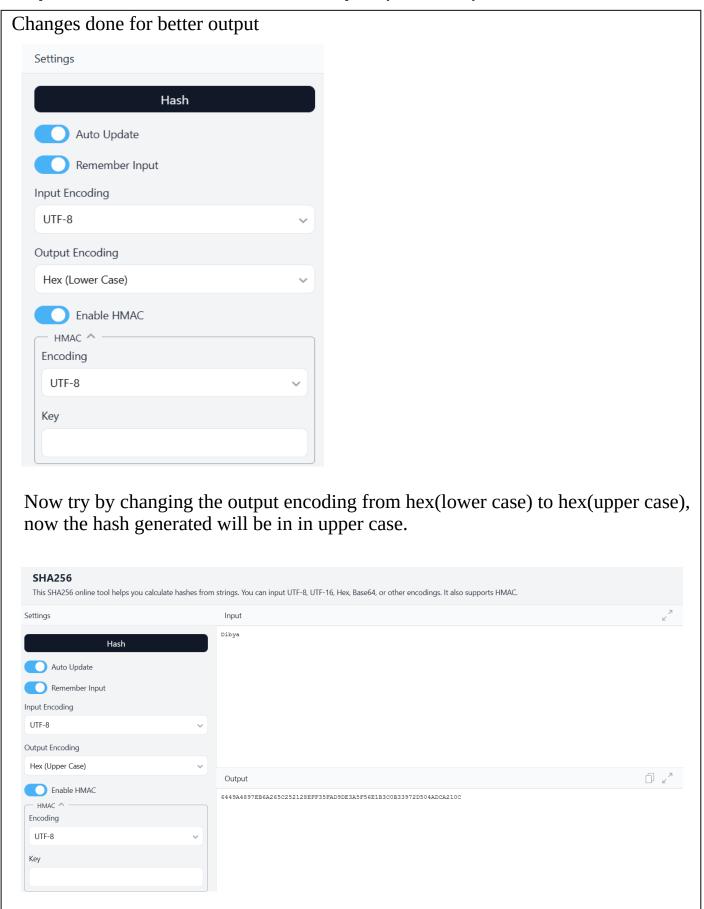
1	Brave	browser
		111111111111

2.SHA-256 online tool link https://emn178.github.io/online-tools/sha256.html

### \* Implementation Phase: Final Output (no error)

Search for any SHA-256 online tool link in your brave browser. This tool helps generate SHA-256 hashes instantly. SHA256 Auto Update Remember Inpu Input Encoding Enable HMAC RIPEMD DES Triple DES Type your message in the input box provided on the webpage. Input Dibya Now the tool will process the input and will automatically generate a SHA-256 hash. Output e671ab7ad31af420d3eaf11032ada5d1a93c5b45fed97b6852843eea10cbad07 Now do some modifications in the input and observe that a small change in the input can cause a drastic change in the hash. Input Diby Output 64cd2897c3a798d20686930c1d698eeca1c91e7f26c24eaf626996fdba01d932

# \* Implementation Phase: Final Output (no error)



# \* Implementation Phase: Final Output (no error) Applied

Applied and Action Learning

If we want some privacy then we have to enable HMAC and write a key to keep the hash secure. **SHA256** This SHA256 online tool helps you calculate hashes from strings. You can input UTF-8, UTF-16, Hex, Base64, or other encodings. It also supports HMAC. Settings Dibyadisha Sahoo Hash Auto Update Remember Input Input Encoding UTF-8 Output Encoding Hex (Upper Case) Enable HMAC OCE1D7EE59A8F24AA415226FFFCF90C9F10BB7728512F142B6ECD6FFD5653F82 Encoding UTF-8 Key Chiky

#### \* Observations

- 1.The SHA-256 hashing process successfully generated a fixed 256-bit hash output for any given input, ensuring data integrity.
- 2.Even a small change in the input drastically altered the hash value, demonstrating the avalanche effect.

#### **ASSESSMENT**

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

Signature of the Student:

Name:

Regn. No.:

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