

Assignment 1

You can work in a team of 4 to 6 people.

Task 0 - Assemble a Team

Fill out this document: <https://docs.google.com/spreadsheets/d/1AGZWpTNDpR4bW1-584091rosLPzs3TVAZT1iJXvC3us/edit?gid=0#gid=0>

Team number and name: _____

Task 1 - Time Capsule

Each team member must write a message to their future self (message to themselves after the program ends (5-150 words)).

Encrypt this message using AES (256 bit).

Use one key for the entire team as a key.

Write the encryption results in base64: _____

Task 2 - Mining

Find the input value for the SHA256 hashing algorithm that would give a result with 2 leading zeros.

The input value should be students+ _____

Input value: _____

Resulting hash: _____

Write the difference between hashing and encryption (40-200 words):

Answer: _____

EXTRA: find the input value that gives a hash with 5 leading zeros

Task 3 - Working with blockchain

1. Create a metamask wallet. Write your metamask addresses: _____

2. Create a second account in metamask and send 0.01 tBNB there. Leave a link to the transaction where you make the transfer: <https://testnet.bscscan.com/>

Transaction link: _____

3. Working with the block explorer. Write which block your transaction ended up in, send a link to this block in the block explorer. example: <https://testnet.bscscan.com/block/27801311> describe this block (20-100 words)

Block URL: _____

Block Description: _____

4. Swap tBNB for BUSD at <https://pancakeswap.finance/?chain=bscTestnet> (leave transaction URL)

Transaction URL: _____

5. Add liquidity to tBNB and BUSD at: <https://pancakeswap.finance/liquidity?chain=bscTestnet> (leave transaction URL)

Transaction URL: _____

6. Describe what liquidity is needed for (20-100 words)

Answer: _____