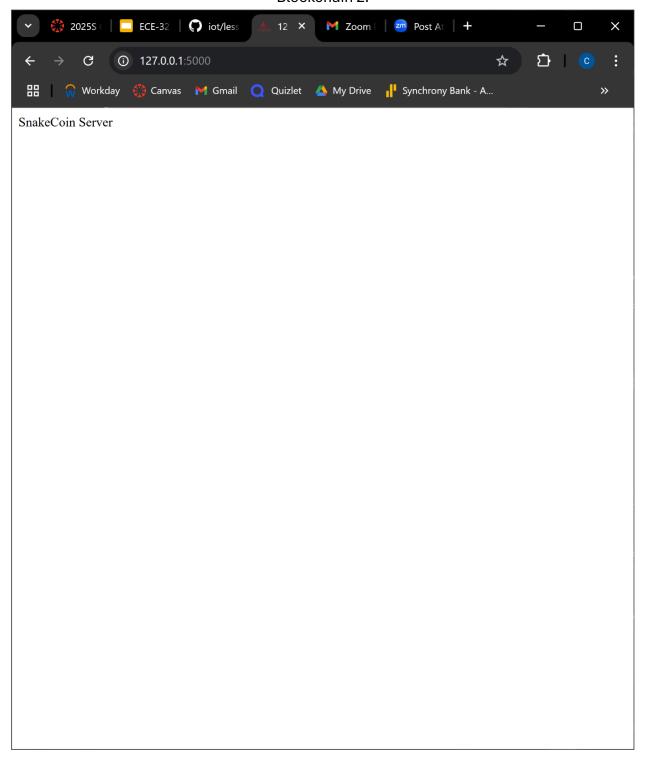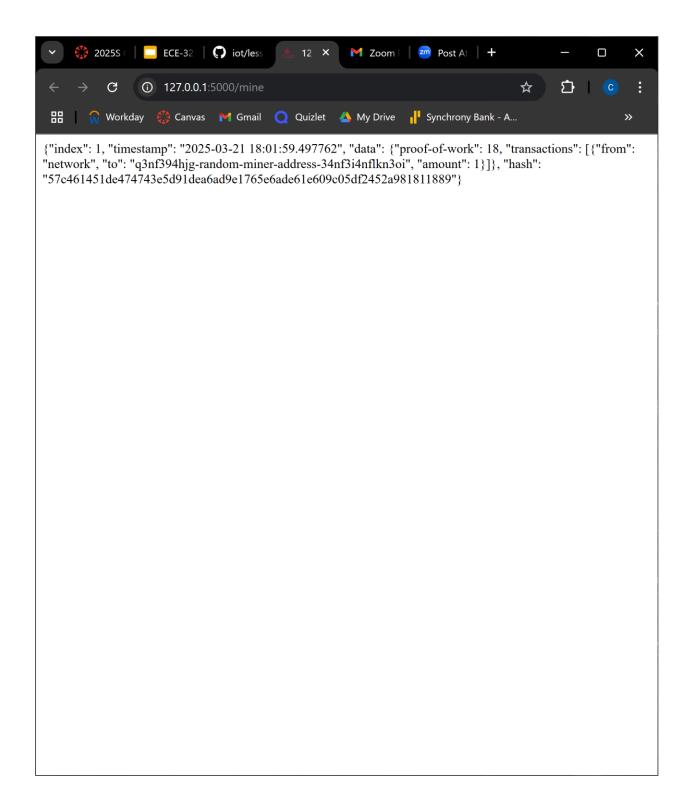# Lab 10 – Blockchain

```
PS C:\Users\Chris Longo\iot\lesson10> & "C:/Users/Chris Longo/.conda/envs/Pandas/python.exe" "c:/Users/Chris Longo/iot/lesson10/hash_value.py"
The hash for 1 is: 1
The hash for 1.0 is: 1
The hash for 3.14 is: 322818021289917443
The hash for Python is: 2365693768070975769
The hash for a tuple of vowels is: -8384710303243062366
The hash for an object of person is: 23588521542560062227
envs/Pandas/python.exe" "c:/Users/Chris Longo/iot/lesson10/hash_value.py"
The hash for 1 is: 1
The hash for 1.0 is: 1
The hash for 3.14 is: 322818021289917443
The hash for Python is: 2299323421600462560
The hash for a tuple of vowels is: 5553627031533865955
The hash for an object of person is: 7083857087363847532
PS C:\Users\Chris Longo\iot\lesson10>
```

Ln 1, Col 1   Spaces: 2   UTF-8   CRLF   {} P

```
PS C:\Users\Chris Longo\iot\lesson10> python -u "c:\Users\Chris Longo\iot\lesson10\snakecoin.py"
Block #1 has been added to the blockchain!
Hash: b0e47a2097548a0dbed15d968022954c9e287ae2e303123f36e0215c1cdb405d

Block #2 has been added to the blockchain!
Hash: ad01d0d1be235d3d6a19b2c135c5e60b5f0385e6dc6222d5221d299d468d8040

Block #3 has been added to the blockchain!
Hash: 9a5ea4778442d12278a8fac254a4dba0eab9654a1d1d9931808fceb3689e432d

Block #4 has been added to the blockchain!
Hash: 4d5666397fd71744c06053586879cabcddcb2b67da9ac55eba7a92e18ad366b8

Block #5 has been added to the blockchain!
Hash: 14a5f536a5fb42d29958bae1ef871365507264d7a1bba67c9bd2e05ff4579dc2

Block #6 has been added to the blockchain!
Hash: 101ac21d2183faffe346fe259ea88b3265dc5106478fa9464821eee463696655

Block #7 has been added to the blockchain!
Hash: e94b68133ef89e5dacdd508ff266619550f62e35d27b928e4b9217328dbc52e4

Block #8 has been added to the blockchain!
Hash: 1e69331f005facd744de26e79360f5f8f878e4b2e7b1a9637ed06b2a09dc7210

Block #9 has been added to the blockchain!
Hash: 2be4f4f51cc07da3fa9ece68fd158e968499162d7a97abd0c582fba6647b978a

Block #10 has been added to the blockchain!
Hash: 432df6622e028fd78ef548e5403425ff56dc30ccfacd9f1782ac50ae2815a9d1

Block #11 has been added to the blockchain!
Hash: 5823db21f2c5d888aae3939453a9bcd5dc83a8a27caaee8ccbd796b535d916d4

Block #12 has been added to the blockchain!
Hash: 255ed8b3899949fe08149baafd8c9bf34279b650a86c670aaaf1d1d4a071c171

Block #13 has been added to the blockchain!
Hash: bbe1326b98648be33389cc490c0577848d1c32dbacf80f01d9daf9c7b790184d

Block #14 has been added to the blockchain!
Hash: 8487b6ad73e1b0ad36d00979d2cb95a191e6e2f9fd26d01e4a8c178f2060bee3


Block #17 has been added to the blockchain!
Hash: 44bba9f1a15ab2c12a694b5742ba807c2702873dd97506d1548beec9b003c6e6

Block #18 has been added to the blockchain!
Hash: 89e991d1b5a1522d9572b1b98c12fb32cfb420b62993eeb415f0d82ec07ca320

Block #19 has been added to the blockchain!
Hash: e94ab9f93ce862925dc8320c7ac2d7d2d96ab27e6af0f2cd86c2442c6392fab0

Block #20 has been added to the blockchain!
Hash: 550cbb6c5d92ded4527278a2fedca4e5cef7bf5c816e4e53418ab76ee9f1ac5d

PS C:\Users\Chris Longo\iot\lesson10>
```

Blockchain 2:

SnakeCoin Server

{"index": 1, "timestamp": "2025-03-21 18:01:59.497762", "data": {"proof-of-work": 18, "transactions": [{"from": "network", "to": "q3nf394hjg-random-miner-address-34nf3i4nflkn3oi", "amount": 1}]}, "hash": "57c461451de474743e5d91dea6ad9e1765e6ade61e609c05df2452a981811889"}

Mining Block #1: