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# Network Security Lab 26

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# Network Security Lab 26

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## Setup

```
>>> from blockchain import statistics
>>> stats = statistics.get()
>>>
```

1. How many bitcoins have been mined.

```
>>> stats.btc_mined
178750000000
>>>
```

2. Minutes between blocks

```
>>> stats.minutes_between_blocks
9.5493
```

3. Difficulty

```
>>> stats.difficulty
520808749422
```

4. Number of mined blocks

```
>>> stats.mined_blocks
143
```

5. Block Size

```
>>> stats.blocks_size
141113701
```

6. Total block numbers

```
>>> stats.total_blocks
462604
```

```
david@yogata: /tmp/api-v1-client-python
AttributeError: 'Stats' object has no attribute 'bc_mined'
>>> stats.btc_mined
178750000000
>>> stats = statistics.get()
>>> stats.btc_mined
178750000000
>>> stats = statistics.get()
>>> stats.btc_mined
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>>> from blockchain import statistics
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520808749422
>>> stats.mined_blocks
143
>>> stats.blocks_size
141113701
>>> stats.total_blocks
462604
>>>
```

## Setup

```
>>> from blockchain import blockexplorer
>>> block = blockexplorer.get_block('00000000000000016f9a2c3e0f4c1245ff24856a79c34806969f5084f410680')
```

### 1. hash

```
>>> block.hash
'00000000000000016f9a2c3e0f4c1245ff24856a79c34806969f5084f410680'
```

### 2. nonce

```
>>> block.nonce
1691190631
```

### 3. merkle root

```
>>> block.merkle_root
'75ebe61185ea3dff0a6a8c88a9980b5c6a2fd431eae2c6eb7a609e1553797e8b'
```

### 4. transactions

```
>>> block.n_tx
345
```

### 5. Size

```
>>> block.size  
213446
```

#### 6. index

```
>>> block.block_index  
462985
```

#### 7. Received Time

```
>>> block.received_time  
1410326701  
>>>
```

```

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>>> stats = statistics.get()
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>>> from blockchain import statistics
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143
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141113701
>>> stats.total_blocks
462604
>>>
KeyboardInterrupt
>>> import blockexplorer from blockchain
      File "<stdin>", line 1
            import blockexplorer from blockchain
                ^
SyntaxError: invalid syntax
>>> from blockchain import blockexplorer
>>> block = blockexplorer.get_block('000000000000000016f9a2c3e0f4c1245ff24856a79c34806969f5084f410680')
>>> block.hash
'000000000000000016f9a2c3e0f4c1245ff24856a79c34806969f5084f410680'
>>> block.nonce
1691190631
>>> block.merkle_root
'75ebe61185ea3dff0a6a8c88a9980b5c6a2fd431eae2c6eb7a609e1553797e8b'
>>> block.n_tx
345
>>> block.size
213446
>>> block.index
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Block' object has no attribute 'index'
>>> block.block_index
462985
>>> block.recieved_time
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Block' object has no attribute 'recieved_time'
>>> block.received_time
1410326701
>>> █

```

## Setup

```
>>> tx = blockexplorer.get_tx('d4af240386cdacab4ca666d178afc88280b620ae308ae8d2585e9ab8fc664a94')
```

```
>>> tx.time  
1410408459
```

#### 9. Hash

```
>>> tx.hash  
'd4af240386cdacab4ca666d178afc88280b620ae308ae8d2585e9ab8fc664a94'
```

#### 10. Block Index

```
>>> tx.block_height  
320086
```

#### 11. size

```
>>> tx.size  
373
```

#### 12. first input address

```
>>> tx.inputs[0]  
<blockchain.blockexplorer.Input object at 0x7fcd0d8cec18>  
>>> tx.inputs[0].address  
'1HS9RLmKvJ7D1ZYgfPExJZQZA1DMU3DEVd'
```

#### 13. second output address

```
>>> tx.outputs[1].address  
'1HS9RLmKvJ7D1ZYgfPExJZQZA1DMU3DEVd'
```

```
david@yogata: /tmp/api-v1-client-python
AttributeError: 'Block' object has no attribute 'index'
>>> block.block_index
462985
>>> block.recieved_time
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Block' object has no attribute 'recieved_time'
>>> block.received_time
1410326701
>>> tx = blockexplorer.get_tx('d4af240386cdacab4ca666d178afc88280b620ae308ae8d2585e9ab8fc664a94')
>>> tx.time
1410408459
>>> tx.hash
'd4af240386cdacab4ca666d178afc88280b620ae308ae8d2585e9ab8fc664a94'
>>> tx.block_index
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Transaction' object has no attribute 'block_index'
>>> tx.index
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Transaction' object has no attribute 'index'
>>> tx.height
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Transaction' object has no attribute 'height'
>>> tx.tx_id
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
AttributeError: 'Transaction' object has no attribute 'tx_id'
>>> tx.tx_index
64247404
>>> tx.size
373
>>> tx.inputs[0]
<blockchain.blockexplorer.Input object at 0x7fcd0d8cec18>
>>> tx.inputs[0].address
'1HS9RLmKvJ7D1ZYgfPEXJZQZA1DMU3DEVd'
>>> tx.inputs[2].address
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
IndexError: list index out of range
>>> tx.inputs[1].address
'1HS9RLmKvJ7D1ZYgfPEXJZQZA1DMU3DEVd'
>>> tx.block_height
320086
>>> tx.outputs[1].address
'1HS9RLmKvJ7D1ZYgfPEXJZQZA1DMU3DEVd'
>>> 
```