

## Blockchain and Cryptocurrencies Assignment - Report

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## 1.1 - Proof of Work

My User ID

dwmr15

The block target value in Hex

```
0x3e7fc180000000000000000000000000000000000000000000000000000000
```

### The nonce value of the valid block

553137

Number of double-hashes to find the valid nonce and the time taken

My method was to increment the nonce value by 1, double-hash the block and then check if the block is valid. Since my valid nonce value was 553137, this means I made 553138 double-hashes.

This took 9.2717 seconds.

Estimated time at Difficulty 1

TODO

Estimated time at Difficulty 7,454,968,648,263

TODO

## 1.2 - Proof of Stake

### ECDSA public key in Hex

7f7170c84020cc8b8ed97c05250bf578aa1883dc3ce88e1b07e856b6bd16af22454fe273aad9a9255d3904799fd69ea62a1d95754df25961a7bc13b55e88a05b

### Signature of 'Hello World' in Hex

a211248cc339071521bf75d574c1d13f130188f4e0568658f3cc3d9435c12c395fe0ee452bca54adb0574c11f674bfeec1ad5491eddd9c532daf2fd8b6f33729

### Signature used in calculating hit value

be5ce7290429304758cc2f23271b7173460b3e8b63ab46a3e23080f83eb85e228d99ecb1adc02f1da11ad410915d36ae212d486b9e21f1af7581fd92fb8dcdf1

### My hit value in Hex

0xa53726fef23c2e53

### Time to forge a new block

>0.6065 seconds

TODO: Working out

## 2.1 - Interacting with the Bitcoin Testnet

My User ID

dwmr15

Links for the three chosen transactions

TODO

Transaction explanations

TODO

## 2.2 - Sending 100 Satoshis

**My Bitcoin testnet address**

mo94jePN64JaJPXa87SQQqxUT1SbgKcE66

**Transaction ID**

71233edb0a780d3ade9415b3273952d7b45d50dd685474d52b86d7ece79a5226

**Transaction URL**

<https://chain.so/tx/BTCTEST/71233edb0a780d3ade9415b3273952d7b45d50dd685474d52b86d7ece79a5226>

## 2.3 - Proof of Burn

### Transaction ID

d89e26fef66caafa896b9e7c3fed2b29460b6bda21149f4d04e9861662bfb6df

### Transaction URL

<https://chain.so/tx/BTCTEST/d89e26fef66caafa896b9e7c3fed2b29460b6bda21149f4d04e9861662bfb6df>

### Script in Hex

6a4c06746573746572

### How I put the script together

TODO

### 3 - Investment in BTC, NXT or Gold?