

## Implementing in Java: A simple example of Blockchain **with mining** (Continuation of TP1)

- Add a new class called “Miner”
  - Declare an integer variable called “difficulty”, that presents the number of leading zeros
  - Calculating “block hash” and incrementing “nonce” until finding the Golden hash (declare nonce in class “block”).

```
while(!GoldenHash(block)) {  
    ...  
}
```

- Boolean Method to find the golden hash:

```
public boolean GoldenHash(Block block) {  
    String leadingZeros = new String(new  
char[difficulty]).replace('\0', '0');  
    return  
block.getHash().substring(0,difficuly).equals(leadingZeros);  
}
```

- Obviously, mine the block before adding it to the blockchain
- In the “main”, create different blocks, mine them, add them to the blockchain and then display the information of each block.