CSCI361 CRYPTOGRAPHY & SECURE APPLICATIONS ASSIGNMENT 2

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I HAVE READ THE POLICY FOR PLAGARISM AT UNIVERSITY OF WOLLONGONG.
I DECLARE THAT THIS ASSIGNMENT SOLUTION IS ENTIRELY MY OWN WORK.

Task 5
How to compile the program:
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1. Open your command prompt
2. Navigate to folder where files are stored
3. javac hashcash.java
4. java hashcash limit 4 data new_ledger.txt

I did not manage to put existing transaction records inside the new_ledger.txt but it is put at another file named Transactions.txt
The generated blocks are stored into new_ledger.txt and there is new output.txt generated where transaction and nonce are stored.

```
sallyyeo@sallys-MacBook-Pro POF % javac POF.java
sallyyeo@sallys-MacBook-Pro POF % java POF limit 4 data new_ledger.txt
Genesis Block Hash : 00004f45f4f1748e21f12d89ee9c63fc

Transactions                          Hash Values                      Nonce
-----------------------------------------------------------------------------
Bobbie pays 100 dollars to Charlie    00002c63fff0714284d5ea212e153f8d  65809
Charlie receives 30 dollars from Daniel  000033ff3dcb331a6a653fb020420e24  56846
Daniel pays 25 dollars to Eve         00004c6b9ba19967a578f34ff520de83  17213
Eve Ning pays 125 dollars to Fernando  000052d30d149eef0112273638e89a74  5361

Transaction Block 1
Previous Transaction         : Anne pays 50 dollars to Bob
Previous Hashed              : 00004f45f4f1748e21f12d89ee9c63fc

Current Transaction          : Bobbie pays 100 dollars to Charlie
Secret Nonce                 : 65809
Computed Hash with Secret Nonce  : 00002c63fff0714284d5ea212e153f8d
Hash value in the ledger     : 00002c63fff0714284d5ea212e153f8d
Hash validation is           : True
=============================================================================

Transaction Block 2
Previous Transaction         : Bobbie pays 100 dollars to Charlie
Previous Hashed              : 00002c63fff0714284d5ea212e153f8d

Current Transaction          : Charlie receives 30 dollars from Daniel
Secret Nonce                 : 56846
Computed Hash with Secret Nonce  : 000033ff3dcb331a6a653fb020420e24
Hash value in the ledger     : 000033ff3dcb331a6a653fb020420e24
Hash validation is           : True
=============================================================================

Transaction Block 3
Previous Transaction         : Charlie receives 30 dollars from Daniel
Previous Hashed              : 000033ff3dcb331a6a653fb020420e24

Current Transaction          : Daniel pays 25 dollars to Eve
Secret Nonce                 : 17213
Computed Hash with Secret Nonce  : 00004c6b9ba19967a578f34ff520de83
Hash value in the ledger     : 00004c6b9ba19967a578f34ff520de83
Hash validation is           : True
=============================================================================

Transaction Block 4
Previous Transaction         : Daniel pays 25 dollars to Eve
Previous Hashed              : 00004c6b9ba19967a578f34ff520de83

Current Transaction          : Eve Ning pays 125 dollars to Fernando
Secret Nonce                 : 5361
Computed Hash with Secret Nonce  : 000052d30d149eef0112273638e89a74
Hash value in the ledger     : 000052d30d149eef0112273638e89a74
Hash validation is           : True
=============================================================================
```