Name: Class:

Task 1

The following table shows features of traditional currencies and digital currencies. For each feature, tick whether it is part of traditional currencies and/or digital currencies. You may tick more than one box for each feature if appropriate.

|  |  |  |
| --- | --- | --- |
|  | **Traditional currencies** | **Digital currencies** |
| May use notes |  |  |
| It may be used to buy and sell products |  |  |
| It may use digital numbers stored on a computer |  |  |
| May use coins |  |  |
| It may be reused multiple times |  |  |
| Has no intrinsic value in itself |  |  |
| It makes use of cryptography to prevent unauthorised transactions |  |  |
| Counterfeit currency cannot be created |  |  |
| A government, central bank, or organisation can decide to make more currency |  |  |

Task 2

Before completing this task, please be aware that the bitcoin wallet that you generate must not be used for storing bitcoin. This is because a number of security precautions have not been taken.

Go to <https://bitaddress.org>

Move your mouse to create a bitcoin wallet and then answer the following questions.

1. Why do you need to move your mouse around?

2. Paste your bitcoin address below.

|  |
| --- |
|  |

3. Paste your private key below.

|  |
| --- |
|  |

4. What is the purpose of the bitcoin address? (This may be more obvious if you click the button to show a ‘paper wallet’.

5. What is the purpose of the private key?

Task 3

Go to:

<https://blockstream.info/block/000000000019d6689c085ae165831e934ff763ae46a2a6c172b3f1b60a8ce26f>

This website allows you to view the contents of blocks on the blockchain.

Block 0 is special. It is the first block on the bitcoin blockchain and is known as the ‘Genesis Block’.

(a) Each block needs to store a timestamp of when it was added to the blockchain.

Using the details of the blockchain explorer, find the timestamp for the very first bitcoin added to the block.

(b) The block’s hash is a unique number that identifies each block. Copy below the hash of the first every bitcoin block on the blockchain.

Hash:

(c) Now look at the transactions that occurred at the following bitcoin address:

<https://www.blockchain.com/btc/address/1A1zP1eP5QGefi2DMPTfTL5SLmv7DivfNa>

We have no information about who owns the bitcoin address, but we do know every transaction that it has made.

Look at the list of transactions and screenshot and paste one transaction below.

A picture containing graphical user interface

Description automatically generated

Identify the following details in the transaction by completing the table below:

|  |  |
| --- | --- |
| Transaction details |  |
| The transaction hash ID |  |
| The timestamp |  |
| The sending address, or sending addresses |  |
| The receiving address, or receiving addresses |  |
| The amount of bitcoin transferred |  |
| The fee to validate the block |  |

(d) Find the exchange rate of one bitcoin in pounds sterling (British pounds). You can probably use a web browser with the following query:

“1 BTC in GBP”

(e) In pounds, what was the fee charged for processing and verifying this transaction?

(f) International payments of money typically use the SWIFT payments system. UK banks typically charge a fee of around £20 for this service which takes one day to process.

Compare the use of bitcoin in making this transfer.