1. <https://github.com/00010401/CSF.CW1.00010401>
2. a) ID number: 10401.

Converting ID number in decimal into its binary equivalent:

|  |  |  |
| --- | --- | --- |
|  | **Remainder** | **Binary** |
| 10401/2=5200 | 1 | 1 |
| 5200/2=2600 | 0 | 0 |
| 2600/2=1300 | 0 | 0 |
| 1300/2=650 | 0 | 0 |
| 650/2=325 | 0 | 0 |
| 325/2=162 | 1 | 1 |
| 162/2=81 | 0 | 0 |
| 81/2=40 | 1 | 1 |
| 40/2=20 | 0 | 0 |
| 20/2=10 | 0 | 0 |
| 10/2=5 | 0 | 0 |
| 5/2=2 | 1 | 1 |
| 2/2=1 | 0 | 0 |
| 1/2=0 | 1 | 1 |

So, the number is 10100010100001.

Converting ID number in decimal to its hex equivalent:

|  |  |  |
| --- | --- | --- |
|  | **Remainder** | **Hex** |
| 10401/16=650 | 1 | 1 |
| 650/16=40 | 10 | A |
| 40/16=2 | 8 | 8 |
| 2/16=0 | 2 | 2 |

So, the number is 28A1.

b) 1)

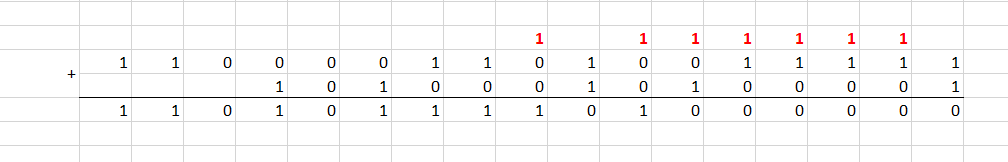
Decimal 99999 to binary:

|  |  |  |
| --- | --- | --- |
|  | **Remainder** | **Binary** |
| 99999/2=49999 | 1 | 1 |
| 49999/2=24999 | 1 | 1 |
| 24999/2=12499 | 1 | 1 |
| 12499/2=6249 | 1 | 1 |
| 6249/2=3124 | 1 | 1 |
| 3214/2=1562 | 0 | 0 |
| 1562/2=781 | 0 | 0 |
| 781/2=390 | 1 | 1 |
| 390/2=195 | 0 | 0 |
| 195/2=97 | 1 | 1 |
| 97/2=48 | 1 | 1 |
| 48/2=24 | 0 | 0 |
| 24/2=12 | 0 | 0 |
| 12/2=6 | 0 | 0 |
| 6/2=3 | 0 | 0 |
| 3/2=1 | 1 | 1 |
| 1/2=0 | 1 | 1 |

So, 99999 in decimal is equal to 11000011010011111 in binary.

ID 10401 in decimal is equal to 10100010100001 in binary.

Decimal 99999 in binary and ID number in binary addition:



2) Decimal 99999 in binary and ID 10401 in binary subtraction:

