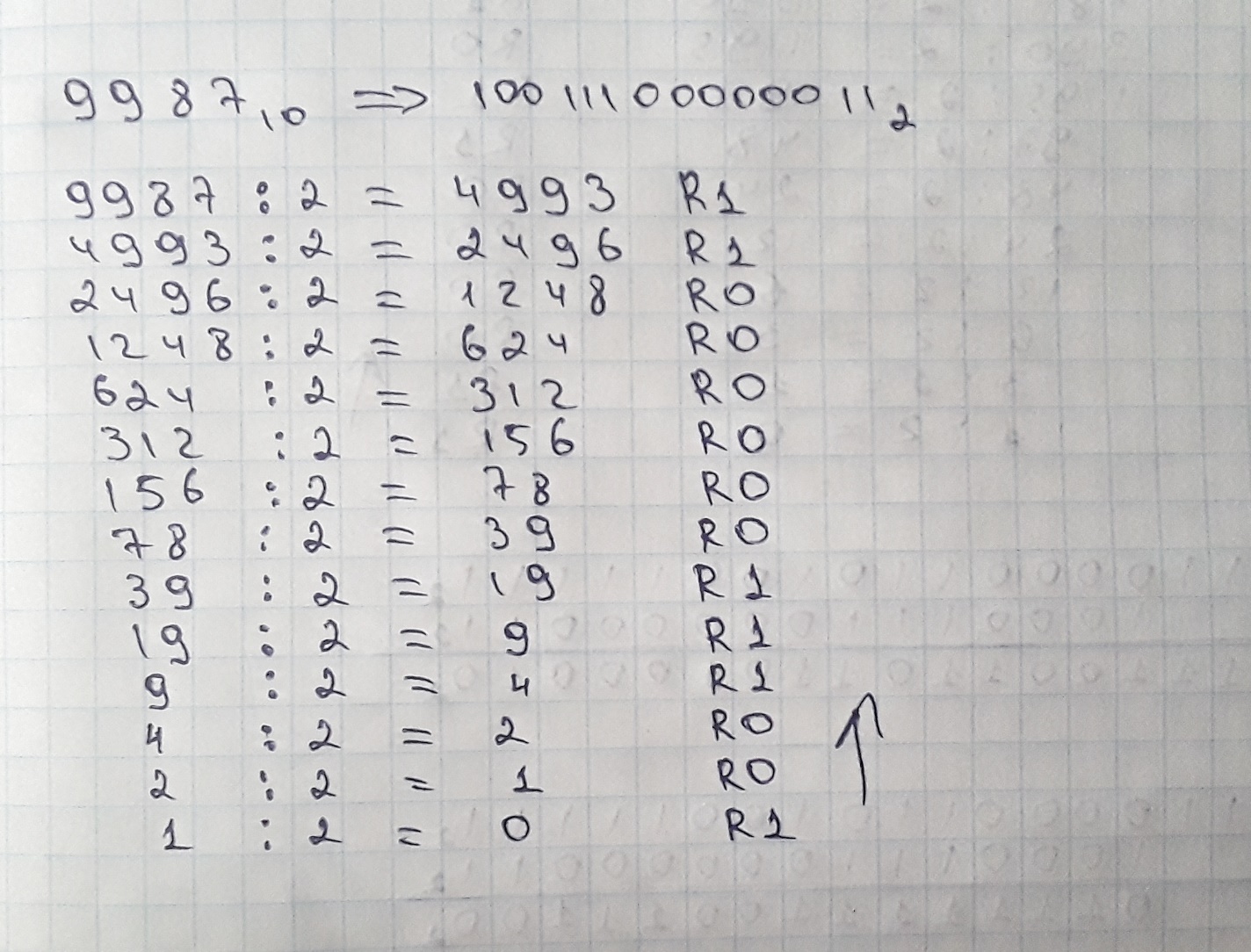
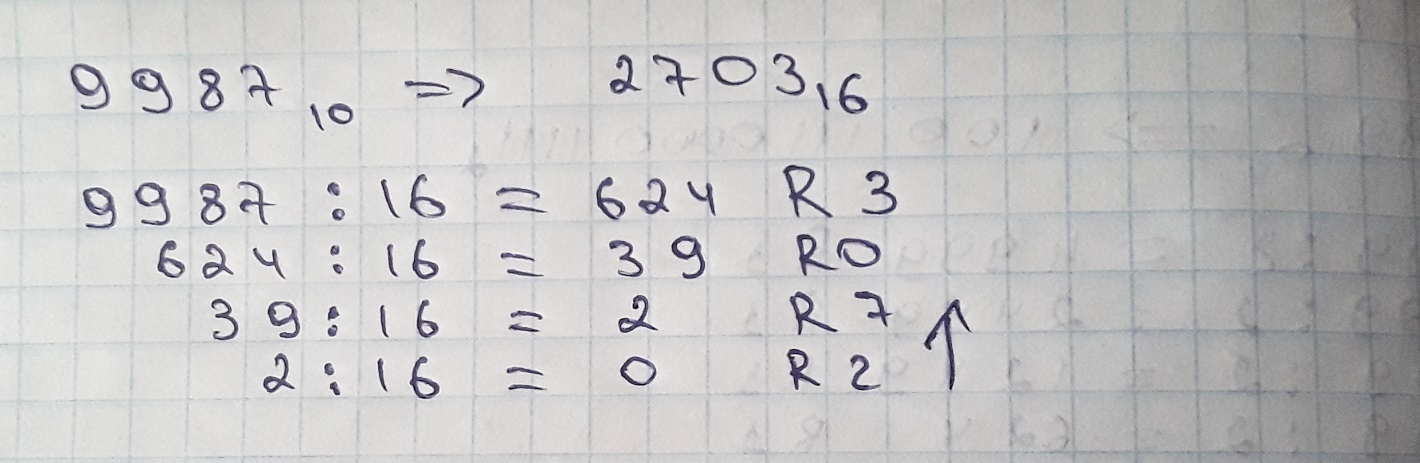
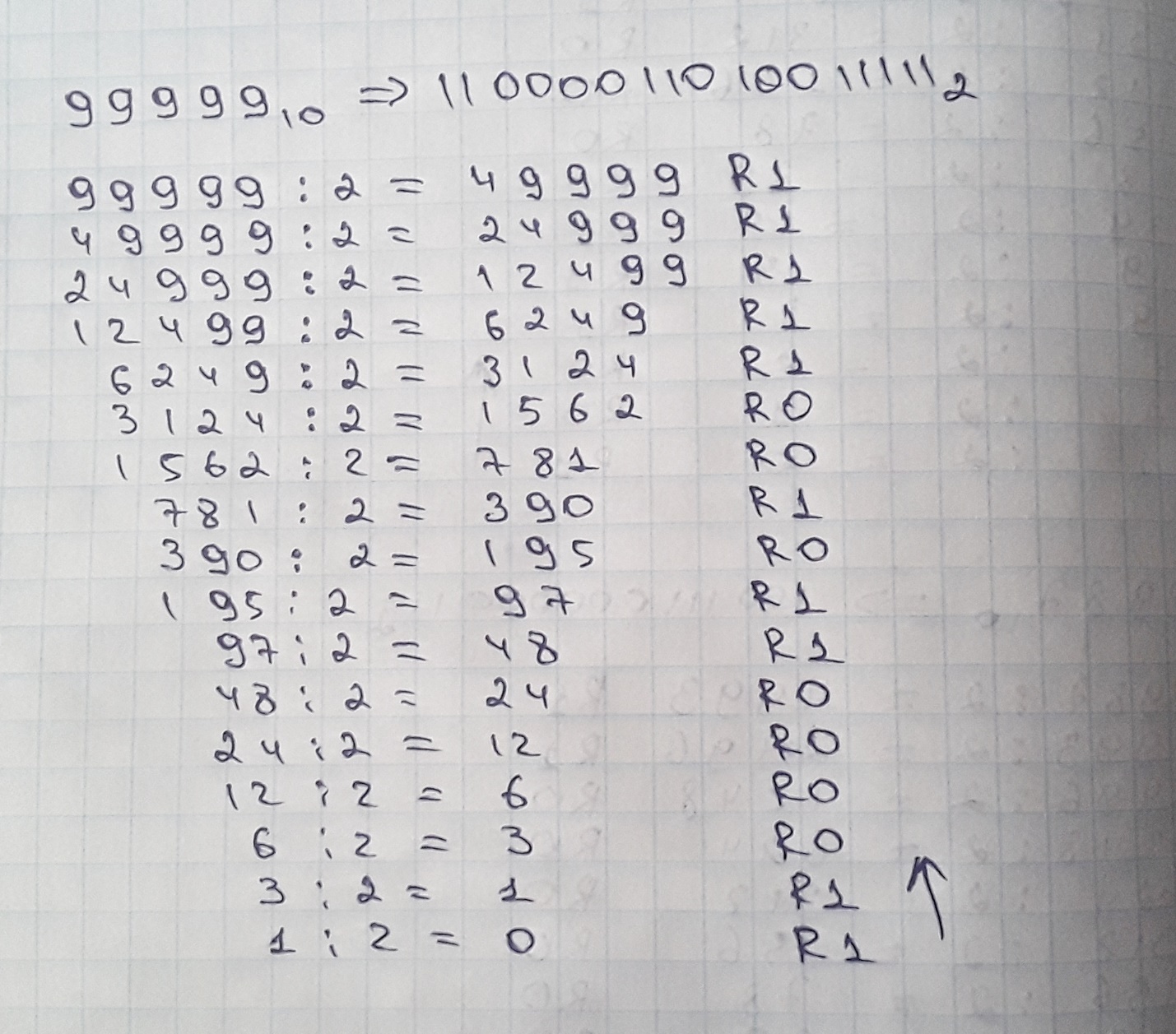
**Task 2**

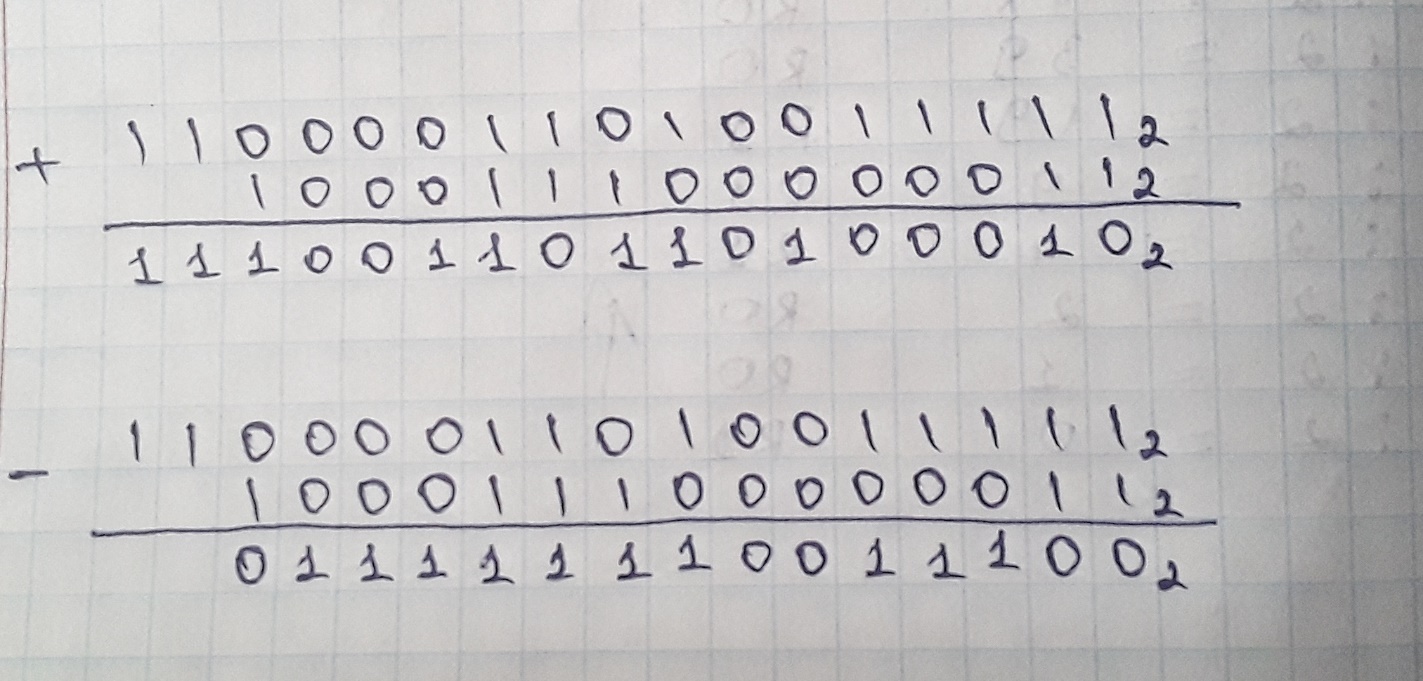
**a)** *Decimal to Binary (R – Remainder):*

*Decimal to Hex:*

**

**b)** *Conversion of 99,999 to binary:*

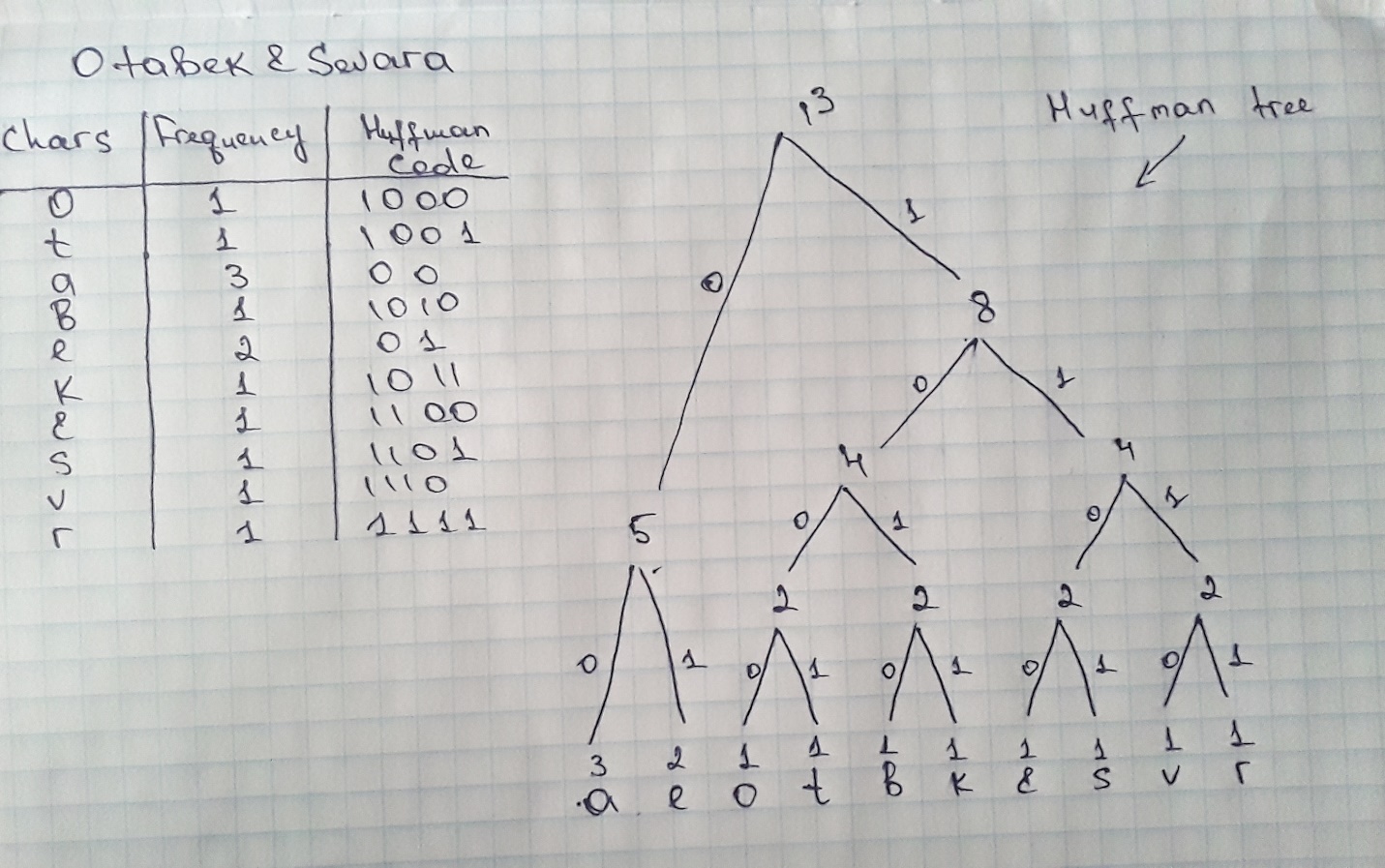
*Addition and subtraction respectively:*

**

**c)** There are several reasons why using hexadecimal is more efficient over other number bases. The reasons are, firstly, since digits that are more closely look alike to usual base-10 number system used in hexadecimal, it is easier to read the digits at the first glance. Secondly, higher information density, that is in order to show any number between 0 and 255, only 2 digits are required in hexadecimal, and when it comes to do the exact same thing in binary, 8 digits are required (Savas, 2016).

**Task 3**

*Table and Huffman tree respectively:*



**Reference list**

Savas, N. (2016). Why do we use hexadecimal? *Medium*. Available from <https://medium.com/@savas/why-do-we-use-hexadecimal-d6d80b56f026> [Accessed 14 January 2021].