**Başar Çelebi - 20201701066**

**Doğukan Gökalp - 20201701031**

**Öykü Sucuoğlu - 20201701057**

**Damla Şanlı - 20211701040 Project Report #1**

**Divison Operation Project Report**

We’ve created an algorithm that teaches division operation to the computer. We’ve used five registers and two memories to create an efficient division algorithm. Firstly, to make the long division, the algorithm subtracts the divisor from the dividend until the divisor becomes smaller than the dividend. In addition, the algorithm increases the recorder value that shows quotient value by one for every subtraction operation. After completing the subtraction operations, the algorithm saves the number that rests from the subtraction operation on the dividend value to Register 2 (R2). After calculating the value of the recorder, the value of the recorder is saved to Register 1 (R1) by the algorithm. While we were designing this algorithm, we have taken into account that the numbers can also take negative values. We’ve preferred to use a sub-algorithm mechanism to make long divisions on negative numbers. In this way, to make an operation with a negative dividend, we have just preferred to use the opposite of the operations which are used in the main algorithm. To sum up, we created an algorithm that used subtract and summation operations to divide values that are entered randomly.