LAB 02: Greatest Common Divisor

Your Mission:

Write a program in LC-3 assembly language that is used to calculate the greatest common divisor (GCD) of two positive numbers.

Details:

1. **Two positive** 16-bit signed integers will be given in R0 and R1 register. (You can fill the values in the code or modify registers manually in LC3 simulator.)
2. The output value should be put in R0.
3. Your program should start at memory location **x3000** and end with **HALT**.

Example:

	Before Execution	After Execution
R0	x0009	x0003
R1	x000C	Any value you changed R1 to

Notes and Suggestions:

1. If you don't know how to calculate GCD, search it on the internet first.
2. You can use any approach you want to finish the job.
3. Think about how to make your program more efficient by using less instructions.

Additional Requirements:

If you don't comply with these requirements, the lab may be counted as an invalid work.

1. The report shall contain at least 3 parts: How do you work out the algorithm? How do you write the program? And how do you design your

own test cases to ensure the program works fine?
2. Save your report in pdf format and name it such as **report.pdf**.
3. Your program must be saved in binary form and renamed to **gcd.asm.**
4. Put all above in a directory named after your student number and pack it **(e.g. PB07210340_张海博_LAB02.zip).**