

Hint : GCD

Algorithm for finding the greatest common divisor (GCD) of two integers `a` and `b`. The algorithm is a well-known method for finding the GCD efficiently and is based on the fact that the GCD of two numbers remains the same if you repeatedly take the remainder of the larger number divided by the smaller number until the smaller number becomes zero. Here's the algorithm step by step:

1. Start with two integers `a` and `b`, where `a` is greater than or equal to `b`.
2. While `b` is not equal to zero:
 - a. Calculate the remainder of `a` divided by `b`, i.e., $a \% b$.
 - b. Update `a` with the value of `b`.
 - c. Update `b` with the remainder obtained in step (a).
3. Repeat step 2 until `b` becomes zero.
4. When `b` becomes zero, the GCD is the value of `a`.

The algorithm efficiently reduces the two numbers by taking the remainder, ensuring that the GCD remains the same throughout the process. When `b` becomes zero, `a` will be the GCD of the original `a` and `b`.