1. Write an algorithm to determine whether a number is a prime number. The algorithm should iterate through possible divisors and determine if the number has any divisors other than 1 and itself.

- Take a number as an input from the user
- Initialize a variable named a as 2
- Initialize a variable named Result as prime
- Iterate a While loop that will be iterated when a <= number/2
- Calculate the remainder (rem) by rem = number MOD a/2
- If the rem is not equal to zero, increment the value of a by +1
- If the rem is equal to zero, Change the value of the variable Result to not prime
- Output the Result

2. Create an algorithm that asks the user for a day number (1-365) and outputs the corresponding day of the week, assuming that January 1st is a Monday.

- Ask the user to enter a day number
- Remainder = day number MOD 7
- Calculate Remainder
- Remainder = 0 – Sunday
- Remainder = 1 - Monday
- Remainder = 2 - Tuesday
- Remainder = 3 - Wednesday
- Remainder = 4 - Thursday
- Remainder = 5 - Friday
- Remainder = 6 - Saturday
- Output corresponding Day from Remainder

3. Develop an algorithm for a program that takes two numbers as input and finds the Greatest Common Divisor (GCD) of the two numbers using the Euclidean algorithm.

- Let two numbers be num1 and num2, where num1>=num2
- While num2 not equal to 0
- Compute the remainder of num1 divided by num2. This can be expressed as $\text{remainder} = \text{num1}\%\text{num2}$
- Replace num1 with num2 and num2 *with the* remainder.
- When num2 $\text{becomes } 0$, num1 will be the GCD of the original two numbers.