**Pseudocode**

**Q1: Write pseudocode to find the smallest number among three given variables. Implement a decision-making structure to compare the variables.**

Start

INPUT num1, num2, num3

IF

num3> num2> num 1

Print, “Num1 is smallest”

ELSE IF

num2>num3>num1

Print, “num1 is smallest”  
ELSE IF

Num1> num2> num3

Print, “Num 3 is smallest”  
ELSE IF

Num2> num1> num3  
Print, “Num 3 is smallest”  
ELSE  
Print, “Num2 is smallest”

Stop

**Q2: Create pseudocode to subtract two numbers without using the - operator. (Hint: Use addition and complement techniques.)**  
START

INPUT num1, num2

SET num1 TO Binary

SET num1 to 2’s complement

SET num2 to Binary

Solution= num1 + num2

SET Solution to Denary

Print Solution  
  
  
**Q3: Develop pseudocode for a basic calculator that performs multiplication and division. The pseudocode should prompt the user for two numbers and an operator, then display the result of the operation.**

Start

INPUT num1, num2, operator

Operation=0

IF

Operator= ‘x’

Operation= num1 x num2

Print operation

ELSE IF

Operator= ‘/’

Operation= num1/num2

Print operation

ELSE

Print, “Invalid operator”  
 Stop

**Algorithm**

**Q1: 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.**

1. Start
2. Input Num
3. If Num<2, Print “not a prime number” and stop
4. Set Counter=0
5. Set divisor=2
6. Divide the number by divisor
7. If the remainder is 0, increment counter by 1
8. Add 1 to the divisor
9. Go to step 6 till divisor= number
10. If counter= 1
11. It is a prime number
12. Stop

**Q: 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.**

1. Start
2. Input Num1, Num2
3. Assign bigger number to A and smaller number to B
4. Do A mod B and note down the remainder
5. Now assign B’s value to A and remainder’s value to B
6. If B is not equal to zero, go to step 4
7. If B=0
8. A= Greatest Common Divisor, Print ‘A’
9. Stop