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

```
//  START
SET num 1=n1, num 2=n2, num 3=n3
SET smallest number=s

INPUT  n1,n2,n3
INPUT s

IF (n1<n2 AND n1<n3),
 THEN s=n1
ELSE IF (n2<n1 AND n2<n3),
 THEN s=n2
ELSE s=n3
ENDIF

PRINT s
 //END
```

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

```
// START
INPUT num1, num2

num3=num2*-1

difference=num1+num3
PRINT difference
//END
```

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
PRINT "Enter your first number"
INPUT num1
PRINT "Enter your operator"
INPUT operator
PRINT "Enter your second number"
INPUT num2

IF (operator==*)
 THEN answer=num1*num2
ELSE IF (operator==/)
    IF num2==0, PRINT "MATH ERROR, UNDEFINED"
    ELSE answer=num1/num2
ELSE PRINT "Invalid Input"
ENDIF
PRINT answer
//END
```

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. Display “Please enter your number”
3. Input number
4. If number<=1, display “This number is not a prime number” and End.
5. If number==2 OR number==3, display “This number is a prime number” and End.
6. Set a loop counter, c=2, step=1
7. Calculate remainder=num%c
8. Add 1 to c
9. Repeat step 7 to 8 until c=num-1
10. If remainder==0 t any step, display “This number is not a prime number”
11. If remainder is not equal to 0, display “This number is a prime number”
12. End

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.

1. Start
2. Print “Enter daynumber between 1-365”
3. If daynumber < 1 OR >365, print “INVALID INPUT”
4. Calculate remainder==daynumber%7
5. If remainder==1, print Monday
6. If remainder==2, print Tuesday
7. If remainder==3, print Wednesday
8. If remainder==4, print Thursday
9. If remainder==5, print Friday
10. If remainder==6, print Saturday
11. If remainder==0, print Sunday
12. End

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. Display "Please enter the first number"
3. Input number1
4. Display "Please enter the second number"
5. Input number2
6. Calculate remainder=number1%number2
7. Update number1=number2 and number2=remainder
8. Repeat until number 2 becomes 0
9. Display "The GCD is number1"
10. End