PF LAB ASSIGNMENT

(Pseudocode)

QNO.1 Write pseudocode to find the smallest number among three given variables. Implement a decision-making structure to compare the variables.

```
01  Start.
02  Input num1.
03  Input num2.
04  Input num3.
05  If (num1 < num2 && num1 < num3).
06  Print num1 is smaller.
07  Else If (num2 < num1 && num2 < num3).
08  Print num2 is smaller.
09  Else.
10  Print num3 is smaller.
11  End.
```

QNO.2 Create pseudocode to subtract two numbers without using the - operator. (Hint: Use addition and complement techniques.)

```
01  01 Start.
02  Input a.
03  input b.
04  Set complement_b= ~b + 1
05  Set result = complement_b + a
06  Print result.
07  End.
```

QNO.3 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.

```
01  01 Start.
02  Input a.
03  Input b.
04  Set result_mult = a*b
05  Set result_div = a/b
06  Print result_mult.
07  Print result_div.
08  End.
```

(Algorithm)

QNO.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.

```
01  01 Start.
02  Input num.
03  If (num <= 1)
04  Print False.
05  Else
06      for (i = 2; i <= sqrt(num))
07          If (n % i == 0)
08              Print False.
09      Print True.
10  End.
```

QNO.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.

```
01  Start.
02  Input day_num.
03  If (day_num >= 1 && day_num <= 365)
04     day_num % 7 = day_week
05     If (day_week == 1)
06        Print “Monday”
07     Else If (day_week == 2)
08        Print “Teusday”
09     Else If (day_week == 3)
10        Print “Wednesday”
11     Else If (day_week == 4)
12        Print “Thursday”
13     Else If (day_week == 5)
14        Print “Friday”
15      Else If (day_week == 6)
16        Print “Saturday”
17      Else (day_week == 0)
18        Print “Sunday”
19  End.
```

QNO.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.

```
01  Start.
02  Input a, b
03  While (b != 0)
04          r = a % b
05          b = r
06          a = b
07  Print a.
08  End.
```