

## Pseudocode

## FORTRAN (original)

INPUT number	10	FORMAT(I4)
	20	READ 10, INUM
INPUT divisor	30	READ 10, IDIVSR
intermediate <-- number	40	IMED = INUM
WHILE intermediate >= divisor	50	IF (INUM – IDIVSR) 80, 60, 60
intermediate <-- intermediate – divisor	60	IMED = IMED – IDIVSR
END WHILE	70	GOTO 5
remainder <-- intermediate	80	IREMR = IMED
OUTPUT remainder	90	PUNCH 1, IREMR

## Pseudocode

**COBOL** (probably buggy, modified from  
“Hello World” program found on the Internet)

INPUT number

INPUT divisor

intermediate <-- number

WHILE intermediate >= divisor

    intermediate <-- intermediate – divisor

END WHILE

remainder <-- intermediate

OUTPUT remainder

```
000100 IDENTIFICATION DIVISION.  
000200 PROGRAM-ID. MODULO.  
000300  
000500 ENVIRONMENT DIVISION.  
000600 CONFIGURATION SECTION.  
000900  
001000 DATA DIVISION.  
001100 FILE SECTION.  
001200  
100000 PROCEDURE DIVISION.  
100200 MAIN-LOGIC SECTION.  
100300 BEGIN.  
100310 ACCEPT NUMBER.  
100320 ACCEPT DIVISOR.  
100330 MOVE NUMBER TO INTERMEDIATE.  
100340 PERFORM UNTIL INTERMEDIATE < DIVISOR  
100350     SUBTRACT DIVISOR FROM INTERMEDIATE  
100360 END-PERFORM.  
100400 MOVE INTERMEDIATE TO REMAINDER  
100500 DISPLAY REMAINDER.  
100600 STOP RUN.  
100700 MAIN-LOGIC-EXIT.  
100800 EXIT.
```

## Pseudocode

**BASIC** (interactive, from the original 1964 Dartmouth manual)

INPUT number	10	DATA user_types_value_of_N
	15	READ N
INPUT divisor	20	DATA user_types_value_of_D
	25	READ D
intermediate <-- number	30	LET I = N
WHILE intermediate >= divisor	40	IF I >= D GO TO 70
intermediate <-- intermediate – divisor	50	LET I = I – D
END WHILE	60	GO TO 40
remainder <-- intermediate	70	LET R = I
OUTPUT remainder	80	PRINT R

## Pseudocode

INPUT number

INPUT divisor

intermediate  $\leftarrow$  number

WHILE intermediate  $\geq$  divisor

    intermediate  $\leftarrow$  intermediate  $-$  divisor

END WHILE

remainder  $\leftarrow$  intermediate

OUTPUT remainder

## C

```
#include <stdio.h>

void main(int argc, char* argv)
{
    int number, divisor, intermediate;

    scanf("%d", &number);
    scanf("%d", &divisor);

    intermediate = number;

    while (intermediate >= divisor)
    {
        intermediate = intermediate - divisor;
    }

    remainder = intermediate;

    printf("%d", remainder);
}
```

## Pseudocode

## FORTRAN 77

INPUT number

INPUT divisor

intermediate  $\leftarrow$  number

WHILE intermediate  $\geq$  divisor

    intermediate  $\leftarrow$  intermediate – divisor

END WHILE

remainder  $\leftarrow$  intermediate

OUTPUT remainder

```
PROGRAM MODULO  
INTEGER NUMBER, DIVISOR  
INTEGER INTERMEDIATE
```

```
READ *, NUMBER  
READ *, DIVISOR
```

```
INTERMEDIATE = NUMBER
```

```
DO WHILE (INTERMEDIATE .GE. DIVISOR)
```

```
    INTERMEDIATE = INTERMEDIATE - DIVISOR
```

```
END DO
```

```
REMAINDER = INTERMEDIATE
```

```
PRINT *, REMAINDER
```

## Pseudocode

## BASIC (structured, as used in early Personal Computers)

INPUT number

INPUT number

INPUT divisor

INPUT divisor

intermediate <-- number

intermediate = number

WHILE intermediate >= divisor

WHILE intermediate >= divisor

    intermediate <-- intermediate – divisor

    intermediate = intermediate - divisor

END WHILE

WEND

remainder <-- intermediate

remainder = intermediate

OUTPUT remainder

PRINT remainder

## Pseudocode

## Java (not object oriented, console input and output)

INPUT number

INPUT divisor

intermediate <-- number

WHILE intermediate >= divisor

    intermediate <-- intermediate – divisor

END WHILE

remainder <-- intermediate

OUTPUT remainder

```
import java.io.*;

public class Modulo
{
    public static void main(String[] args)
    {
        int number, divisor, intermediate, remainder;

        number = Integer.valueOf(System.console().readLine());
        divisor = Integer.valueOf(System.console().readLine());

        intermediate = number;

        while (intermediate >= divisor)
        {
            intermediate = intermediate – divisor;
        }

        remainder = intermediate;

        System.out.println(remainder);
    }
}
```

## Pseudocode

## Visual Basic (not object oriented, console input and output)

INPUT number

INPUT divisor

intermediate <-- number

WHILE intermediate >= divisor

    intermediate <-- intermediate – divisor

END WHILE

remainder <-- intermediate

OUTPUT remainder

Module Modulo

    Sub Main()

        Dim number, divisor, intermediate, remainder As Int32

        Int32.TryParse(System.Console.In.ReadLine(), number)

        Int32.TryParse(System.Console.In.ReadLine(), divisor)

        intermediate = number

        While (intermediate >= divisor)

            intermediate = intermediate – divisor

        End While

        remainder = intermediate

        System.Console.Out.WriteLine(remainder)

    End Sub

End Module



## Pseudocode

**C#** (not object oriented,  
console input and output)

INPUT number

INPUT divisor

intermediate <-- number

WHILE intermediate >= divisor

    intermediate <-- intermediate – divisor

END WHILE

remainder <-- intermediate

OUTPUT remainder

```
using System;

class Program
{
    static void main(string[] args)
    {
        int number, divisor, intermediate, remainder;

        Int32.TryParse(System.Console.In.ReadLine(), out number);
        Int32.TryParse(System.Console.In.ReadLine(), out divisor);

        intermediate = number;

        while (intermediate >= divisor)
        {
            intermediate = intermediate – divisor;
        }

        remainder = intermediate;

        System.Console.Out.WriteLine(remainder);
    }
}
```