Lab2

PSEUDOCODES

Problem 1: Find the maximum number in any of three variables.

Pseudocode:

START

// Input/Output

INPUT number1

INPUT number2

INPUT number3

// Variables and Initialization

SET max = number1

// Process Steps

IF number2 > max THEN

SET max = number2

ENDIF

IF number3 > max THEN

SET max = number3

Else

// Output the maximum number

PRINT "The maximum number is", max

END

Problem 2: Take three variables as input and add them without using the + operator.

Pseudocode:

START

// Input/Output

INPUT number1

INPUT number2

INPUT number3

// Variables and Initialization

SET sum = 0

// Process Steps using bitwise addition

FUNCTION ADD(a, b)

WHILE b != 0 DO

SET carry = a AND b

SET a = a XOR b

SET b = carry << 1

ENDWHILE

RETURN a

END FUNCTION

// Add three numbers without using `+`

SET sum = ADD(ADD(number1, number2), number3)

// Output the sum

PRINT "The sum is", sum

END

Problem 3: Create a small calculator that only does + or - operations.

Pseudocode:

START

// Input/Output

INPUT number1

INPUT number2

INPUT operator

// Variables and Initialization

SET result = 0

// Process Steps

IF operator = '+' THEN

SET result = number1 + number2

ELSE IF operator = '-' THEN

SET result = number1 - number2

ELSE

PRINT "Invalid operator"

EXIT

ENDIF

// Output the result

PRINT "The result is", result

END

ALGORITHMS

* Implement an algorithm for determining if an Nth is a divisor of an n Number (i.e. 2 is a divisor of 6).If so, determine if it’s an even number or odd number as well.

1. Ask the user to enter a number n.
2. Ask the user to enter the nth number.
3. Now divide n by nth (n/nth).
4. If n/nth is divisible by 2 .
5. Then print even
6. Else odd
7. End

* Implement an algorithm where the user enters a number, and an appropriate month is displayed.

1. Ask the user to enter a number n
2. Set a defined list of month number assorting each month a number
3. Compare the inserted number against predefined list of month number
4. If n=1 display january
5. If n=2 display february
6. If n=3 display march
7. And list goes on till 12
8. If the number does not match against any month
9. Notify the user
10. End

* Implement an algorithm for making a simple calculator with all the operators (+,-,\*,/,%)

1. Ask the user to enter two integers n1 and n2
2. Ask the user to enter the operator
3. (+,-,\*,/,%)
4. If the operator is (+) add n1 and n2
5. If the operator is (-) subtract n1-n2
6. If the operator is (\*) multiply n1 and n2
7. If the operator is (/) divide n1 by n2
8. If the operator is (%) find the remaindee of division n1/n2
9. Display the answer according to used operator
10. Print
11. end