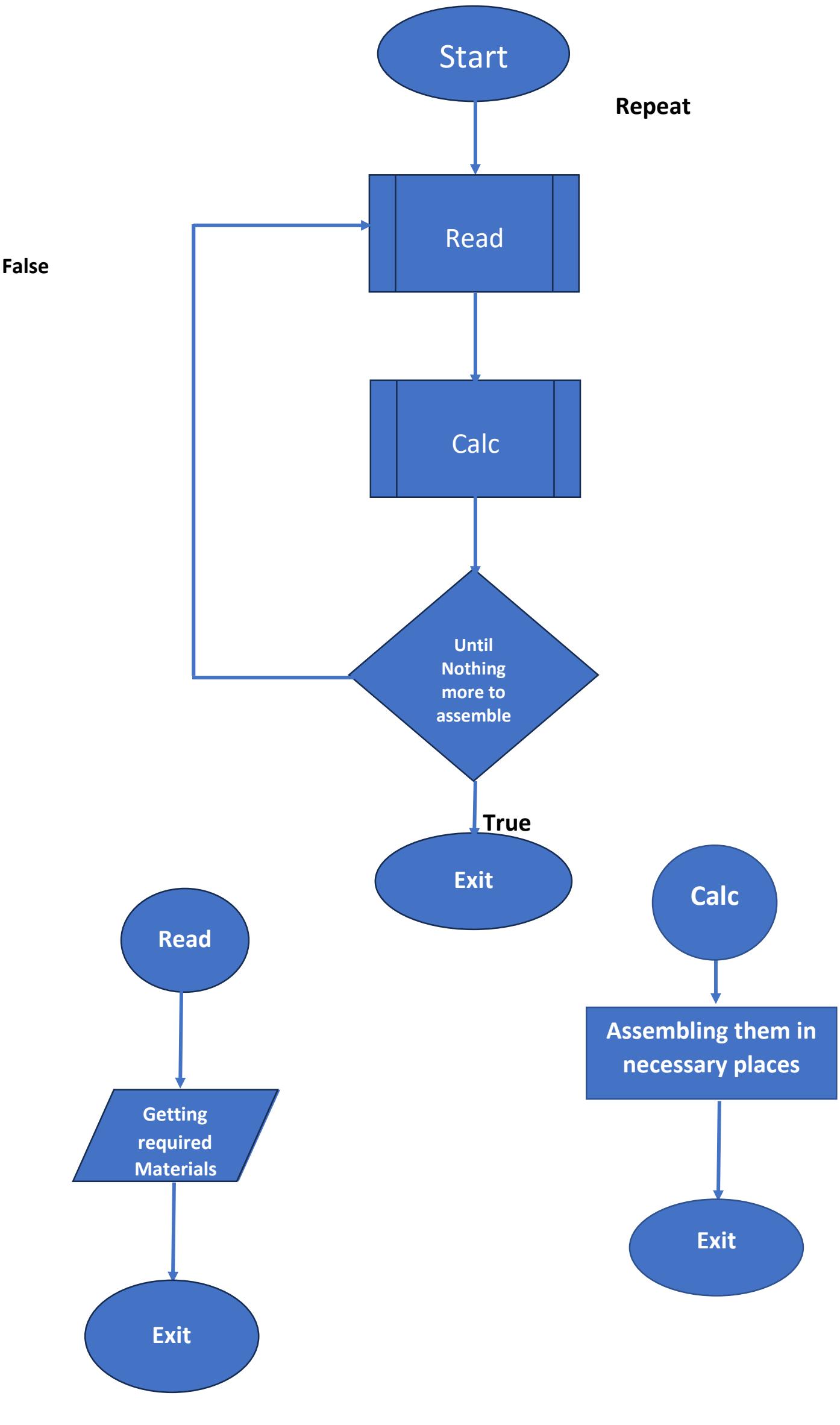
FLOWCHARTS (CONT.)

- **Problem 1: - You are working at Toyota Indus Motors and want to assemble a car. Design a flowchart with proper process modules and decision structures to replicate a pipeline**



Pseudocode

- Problem 2: - Take three variables as input and add them without using the + operator (Use your head for this)

```
1.  START
2.
3.  // Input/Output
4.   INPUT number1
5.   INPUT number2
6.   INPUT number3
7.
8.  // variables and Initialization
9.   SET sum to 0
10. SET subtraction to 0
11.
12. // Process Steps
13.  SET subtraction to - number1 - number2 - number3
14.  SET sum to - (subtraction)
15.
16. // Conditional Statements
17. IF sum > 0 THEN
18.   PRINT “The sum is positive”
19. ELSE
20.   PRINT “The sum is non-positive”
21. END
```

- Problem 3: - Create a small calculator which only does ‘+’ or ‘-‘ Operations. (Hint: Take three variable inputs with one being used for the operator)

```
1.  START
2.
3.  // Input/Output
4.   INPUT number1
5.   INPUT number2
6.   INPUT operator
7.
8.  // variables and Initialization
9.   SET sum to 0
10. SET subtraction to 0
11.
12. // Process Steps
13. SET sum to number1 + number2
14. SET subtraction to number1 - number2
15.
16. // Conditional Statements
17. IF operator = ‘+’ THEN
18.   PRINT ‘sum’
19. IF ELSE operator = ‘-‘ THEN
20.    PRINT ‘subtraction’
21. ELSE
22.      PRINT “Invalid”
```

ALGORITHM

- Problem 1: -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.

i. Ask the User to enter **Nth number**
ii. Ask the user to enter **n number**
iii. Set **Division** to **(n/N)**
iv. **IF Division** is divisible THEN
v. PRINT "It is divisible"
vi. **IF Division** = odd THEN
vii. PRINT "It is odd"
viii. **ELSE Division** = even THEN
ix. PRINT "It is even"
x. **ELSE Division** is not divisible THEN
xi. PRINT "It is not divisible"
xii. Display **Division**

- Problem 3: - Implement an algorithm for making a simple calculator with all the operators (+,-,*,/,%)

I. Ask the user to enter a **number1**
II. Ask the user to enter a **number2**
III. Ask the user to enter an **operator**
IV. IF **operator** = '+' THEN
V. Set **Result** to (number1 + number2)
VI. IF ELSE **operator** = '-' THEN
VII. Set **Result** to (number1 - number2)
VIII. IF ELSE **operator** = '/' THEN
IX. IF **number2** = '0'
X. PRINT "Undefined"
XI. ELSE
XII. Set **Result** to (number1 / number2)
XIII. IF ELSE **operator** = '*' THEN
XIV. Set **Result** to (number1 * number2)
XV. ELSE
XVI. PRINT "Invalid operator"
XVII. Display **Result**