



# COMPUTER SCIENCE

ALGORITHM IN PSEUDOCODE



TRACE TABLES





## LESSON OBJECTIVES

Students should be able to:

- Understand what trace table is
  - Create trace table in a pseudocode problem
  - Revision on Pseudocodes
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## KNOWING WHAT YOU KNOW

Go to:

<https://joinmyquiz.com>

- You are to write your real name and grade.
- Example: Thanh 10GX

# TRACE TABLE



Trace table is a thorough structured approach to find out the purpose of algorithm

It involves recording and studying the results from each step in the algorithm and requires the use of test \_\_\_\_\_.

# TRACE TABLE



Trace table is a thorough structured approach to find out the purpose of \_\_\_\_\_m.

It involves recording and studying the results from each step in the algorithm and requires the use of test \_\_\_\_\_.

# TRACE TABLE



Trace table is a thorough structured approach to find out the purpose of algorithm

It involves recording and studying the results from each step in the algorithm and requires the use of test \_\_\_\_\_.

# TRACE TABLE



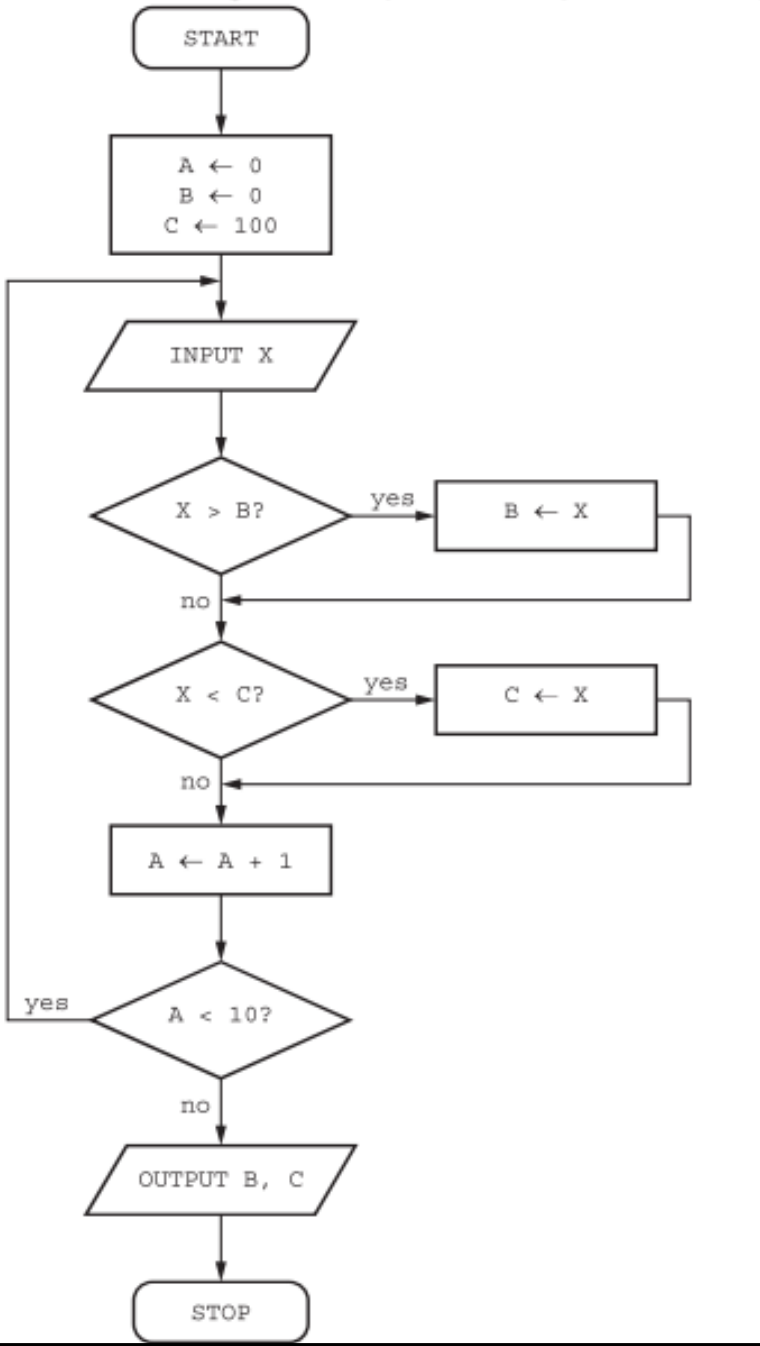
Trace table is a thorough structured approach to find out the purpose of algorithm.

It involves recording and studying the results from each step in the algorithm and requires the use of test data.

# Trace Table 8

Consider the algorithm represented by the flowchart.

Test Data X: 9,7,3,12,6,4,15,2,8,5



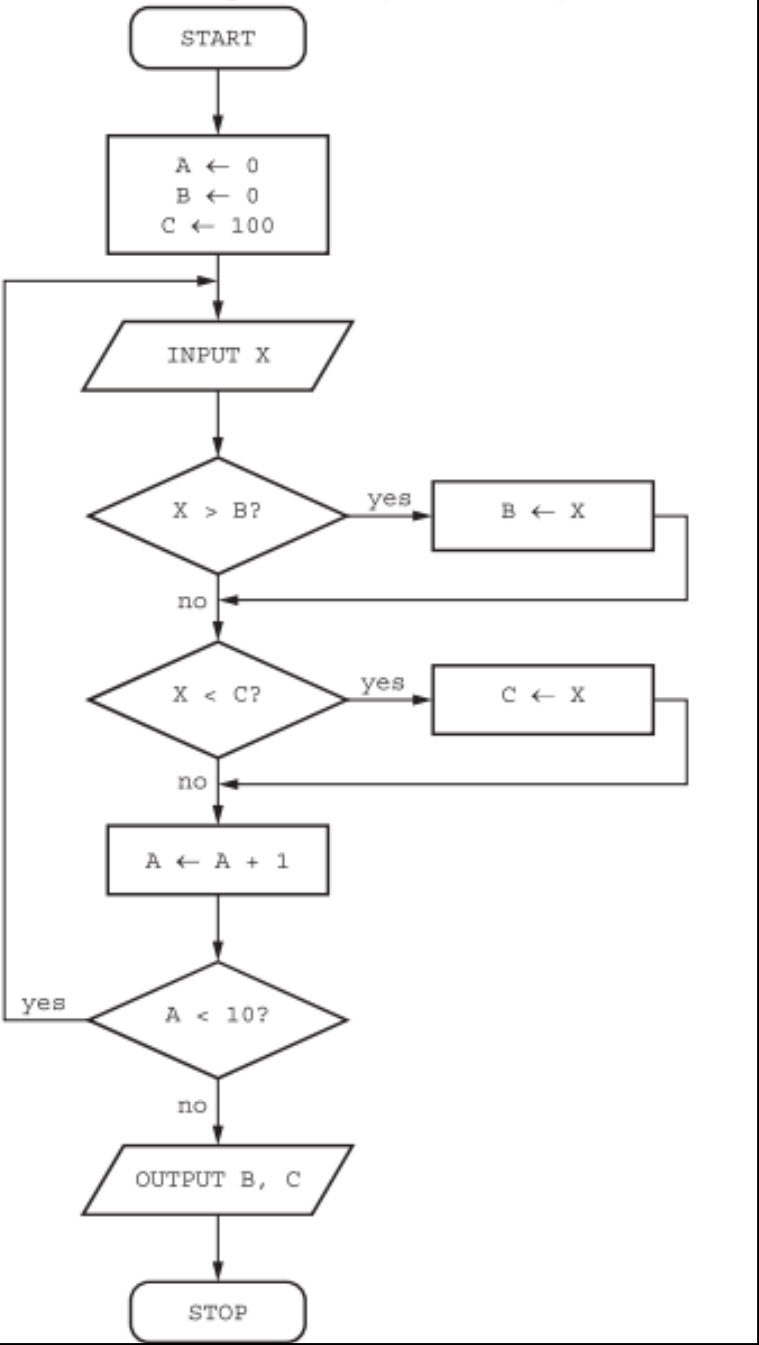
A	B	C	X	OUTPUT
0	0	100		
1	9	9		
2				
3				
4				
5				
6				
7				
8				
9				
10				B=? C=?



# Trace Table

Consider the algorithm represented by the flowchart.

Test Data X: 9,7,3,12,6,4,15,2,8,5



A	B	C	X	OUTPUT
0	0	100		
1	9	9		
2				
3				
4				
5				
6				
7				
8				
9				
10				15 2

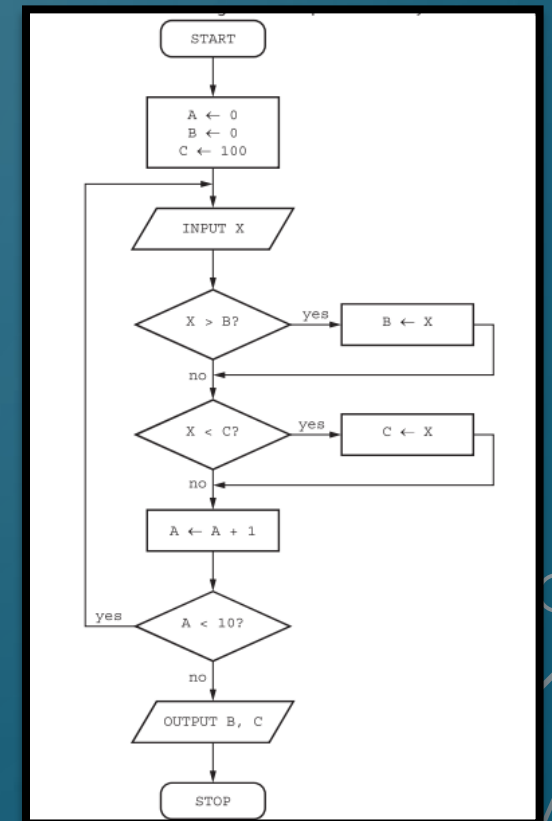
Test Data X: 9,7,3,12,6,4,15,2,8,5

# Trace Table 10

A	B	C	X	OUTPUT
0	0	100		
1	9	9	9	
2		7	7	
3		3	3	
4	12		12	
5			6	
6			4	
7	15		15	
8		2	2	
9			8	
10			5	
				15 2

The values 15 and 2 without the comma

Consider the algorithm represented by the flowchart.



Consider the algorithm represented by the pseudocode.

## Trace Table

```
A ← 0
B ← 0
C ← 100
OUTPUT "Enter your ten values"
REPEAT
  INPUT X
  IF X > B
    THEN
      B ← X
  ENDIF
  IF X < C
    THEN
      C ← X
  ENDIF
  A ← A + 1
UNTIL A = 10
OUTPUT B, C
```

Test Data X: 400,800,190,170,300,110,600,150,130,900

A	B	C	X	OUTPUT
0	0	100		Enter your ten values
1	400		400	
2				
3				
4				
5				
6				
7				
8				
9				
10				
				B=? C=?

Consider the algorithm represented by the pseudocode.

## Trace Table <sup>12</sup>

```
A ← 0
B ← 0
C ← 100
OUTPUT "Enter your ten values"
REPEAT
  INPUT X
  IF X > B
    THEN
      B ← X
  ENDIF
  IF X < C
    THEN
      C ← X
  ENDIF
  A ← A + 1
UNTIL A = 10
OUTPUT B, C
```

Test Data X: 400,800,190,170,300,110,600,150,130,900

A	B	C	X	OUTPUT
0	0	100		Enter your ten values
1	400		400	
2	800		800	
3			190	
4			170	
5			300	
6			110	
7			600	
8			150	
9			130	
10			900	
				900 100

Consider the algorithm represented by the pseudocode.

# Trace Table 13

```
A ← 0
B ← 0
C ← 100
OUTPUT "Enter your ten values"
REPEAT
  INPUT X
  IF X > B
    THEN
      B ← X
  ENDIF
  IF X < C
    THEN
      C ← X
  ENDIF
  A ←
UNTIL A = 10
OUTPUT B, C
```

Test Data X: 400,800,190,170,300,110,600,150,130,900

A	B	C	X	OUTPUT
0	0	100		Enter your ten values
1	400		400	
2	800		800	
3			190	
4			170	
5			300	
6			110	
7			600	
			150	
			130	
10			900	
				900 100

Did you notice any errors ?

Consider the algorithm represented by the pseudocode.

# Trace Table 14

```
A ← 0
B ← 0
C ← 100
OUTPUT "Enter your ten values"
REPEAT
  INPUT X
  IF X > B
    THEN
      B ← X
  ENDIF
  IF X < C
    THEN
      C ← X
  ENDIF
  A ← A + 1
UNTIL A = 10
OUTPUT B, C
```



Test Data X: 400,800,190,170,300,110,600,150,130,900

A	B	C	X	OUTPUT
0	0	100		Enter your ten values
1	400		400	
2	800		800	
3			190	
4			170	
5			300	
6			110	
7			600	
			150	
			130	
10			900	
				900 100

There is an error, as 110, has not been identified



# UNIT REVISION

- Let's start by doing theoretical revision on algorithm in pseudocode and flowcharts.
  - Please go to: <https://joinmyquiz.com>
    - Use your real name and grade.
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The background is a solid blue color with a subtle, faint pattern of circuit board traces. The traces are white and form a grid-like structure with various lines and circular nodes. The pattern is most prominent in the corners and along the left and right edges, framing the central text.

# COMPUTER SCIENCE

FRITZ EUGENE BANSAG

Adaptation from

[teachcomputerscience.com](https://teachcomputerscience.com)





# THANK YOU

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