

# Problem Solving

## DESK CHECKING

by

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# Chapter Description

- **Aims**
  - Students understand how to run the algorithm manually
  - Students test their algorithm to ensure it's correct
- **Expected Outcomes**
  - Students able to test the algorithm manually
- **References**
  - Sprankle, M., and Hubbard, J., (2012). Problem Solving and Programming Concepts : 9th Edition. Prentice Hall, 2012. ISBN : 0132492644



# What is Desk Checking?

Tracing through the logic of the algorithm with some chosen test data

To test the correctness of the algorithm

To test, please ensure the algorithm have the line number

# Step in Desk Checking

1 Choose simple input test cases that are valid

2 Establish expected result for each test cases

3 Identify the relevant variable names within the algorithm

4 Test the algorithm, line-by-line, keeping record of the contents for each variable

5 Repeat the process using the other test cases, until the algorithm has reached its logical

6 Check that the expected result established in step 2 matches the actual result developed in step 5

# Example: Desk checking

## Algorithm

1. CubeArea
2. Read edge
3. Area =  $6 * \text{edge} * \text{edge}$
4. Print Area
5. END

## Test Data

SET 1:  
edge = 4  
SET 2:  
Edge = 5

## Expected Result

SET 1:  
Area = 96  
SET 2:  
Edge = 150

## Desk Checking

Line Number	Edge	Area	Input/Output
<b>First set</b>			
1			
2	4		Edge? 4
3		Area = $6 * 4 * 4$	
4			96
5			
<b>Second set</b>			
1			
2	5		Edge? 5
3		Area = $6 * 4 * 4$	
4			150
5			

# TRY THIS!

## **Problem:**

Add five numbers

Write an algorithm, provide 2 set  
of test data with expected  
result and do the Desk  
Checking

# Conclusion / What we have learn today?



What is Desk Checking



Step in Desk Checking

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