

# General Principle : Consider Code/Formula Reuse

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# Benefits of Reuse

- Reusing code/formulas can reduce development effort.
- Reusing code/formulas may make it easier to make changes.
- Reusing code/formulas can reduce errors in the following ways
  1. By reducing keystrokes, errors caused by typos are reduced.
  2. Reused code gets tested in more situations increasing the chances that a bug will be caught

# Reused Formulas/Code can also introduce errors

- Reuse of code/formulas may require that these formulas/code are written in special ways.
- More things to think about means more ways to make an error

# Example

An example problem that can benefit from code/formula reuse

- You are given the sequence of numbers:  
2, 5, 7, 8
- You are asked to find for each value a number 3 times greater.

# Example Without Reuse

The screenshot shows the Microsoft Excel interface. The title bar reads "Book1 - Microsoft Excel". The ribbon is set to "Home", and the "Editing" group is active. The formula bar shows the formula  $=B6*A4$  for cell B4. The spreadsheet data is as follows:

	A	B	C	D	E	F
1	2	6				
2	5	15				
3	7	21				
4	8	24				
5						
6		3				
7						
8						

The status bar at the bottom indicates "Ready" and a zoom level of 100%.

# Example Without Reuse

- The formula box shows the formula  $B6 * A4$
- This formula cannot be dragged or copied and pasted.
- If this formula were copied and pasted to B1, it would read  $B3 * A1$
- The formula actually at B1, the formula we want is  $B6 * A1$

# Example With Reuse

The screenshot shows the Microsoft Excel interface. The title bar reads "Book1 - Microsoft Excel". The ribbon is set to the "Home" tab, with the "Editing" group selected. The active cell is B4, and the formula bar displays the formula  $=\$B\$6*\$A4$ . The spreadsheet contains the following data:

	A	B	C	D	E	F
1	2	6				
2	5	15				
3	7	21				
4	8	24				
5						
6		3				
7						
8						

The status bar at the bottom indicates "Ready" and "100%".

# Example With Reuse

- The formula box shows that B4 contains a formula that can be dragged and/or copied and pasted to solve the problem
- If the formula in B4 is  $\$B\$6*A4$
- If that formula were to be dragged or pasted to B1, it would be changed to  $\$B\$6*A1$ , which is what is needed to solve the problem