



# Programming with C I

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# Objectives

-  **To understand the differences between call-by-value and call-by-reference**
-  **To understand the distinction between input, inout, and output parameters and when to use each kind**

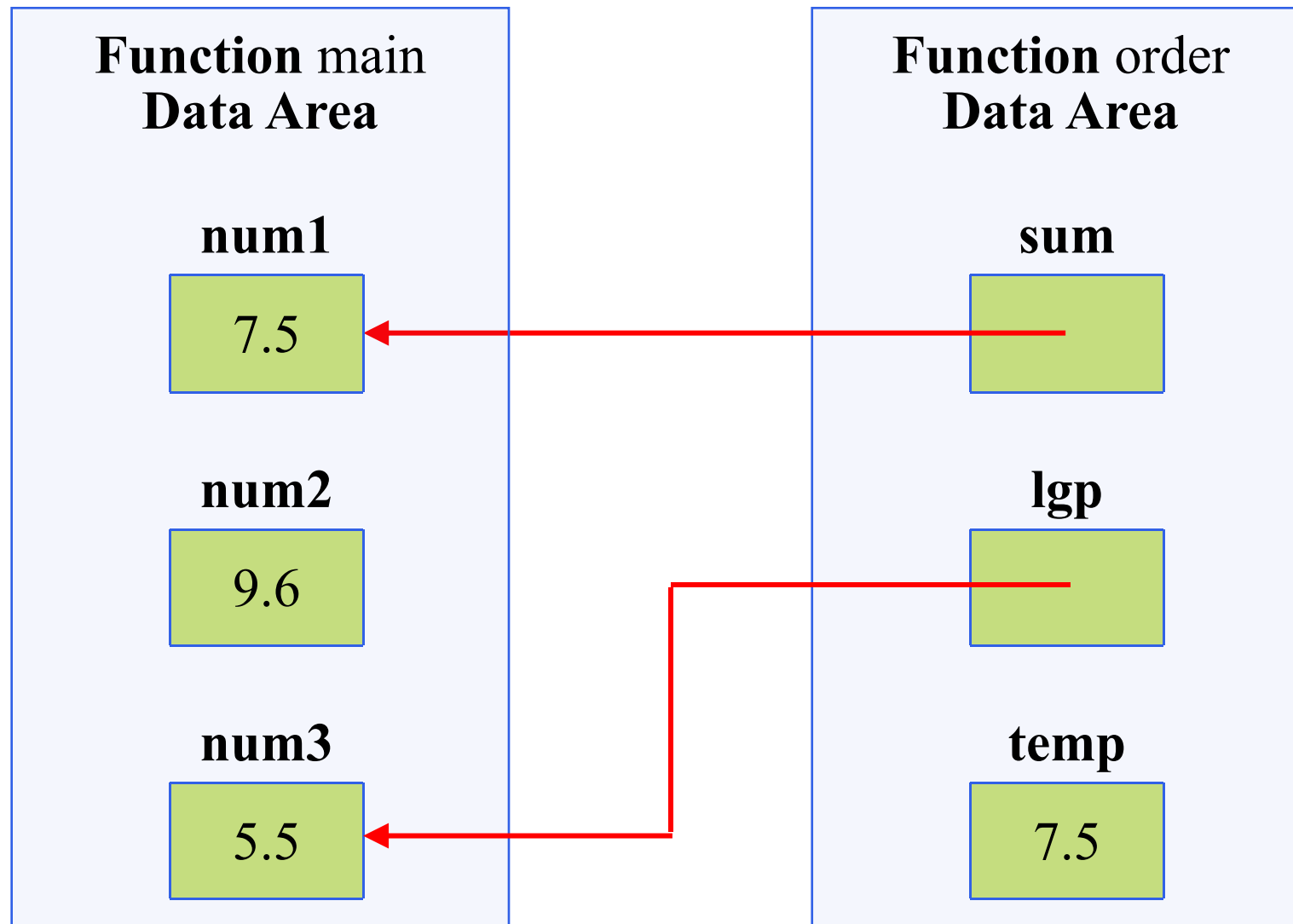
# Multiple Calls to a Function with Input/Output Parameters

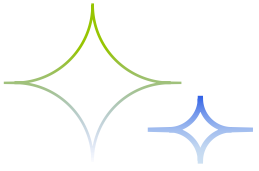
*An example of sorting data*

## Table Trace of Program to Sort Three Numbers

Statement	num1	num2	num3	Effect
<code>scanf(..., &amp;num1, &amp;num2, &amp;num3);</code>	7.5	9.6	5.5	Enters data
<code>order(&amp;num1, &amp;num2);</code>				No change
<code>order(&amp;num1, &amp;num3);</code>	5.5	9.6	7.5	Switches num1 and num3
<code>order(&amp;num2, &amp;num3);</code>	5.5	7.5	9.6	Switches num2 and num3
<code>printf(..., num1, num2, num3);</code>				Displays 5.5 7.5 9.6

**Figure** Data Areas After `temp = *smp;` **During Call** `order(&num1, &num3);`





# THE END

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