The No Solution Case

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No Solution Case _____

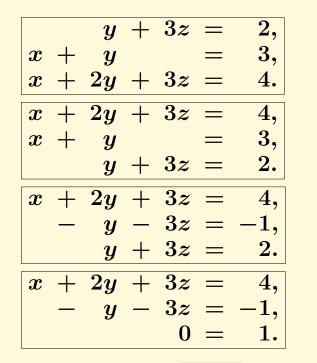
A signal equation is a nonzero equation having no variables. It is typically encountered in frame sequences as the equation 0 = 1.

When a signal equation occurs in a frame sequence, then we report **no solution**, because a signal equation is a false equation, implying that the system of equations cannot have a solution.

An Example _____

Signal Equation 0 = 1.

An Illustration of the No Solution Case



Frame 1. Original system.

Frame 2.

swap(1,3)

Frame 3.

combo(1,2,-1)

Frame 4. Signal Equation 0 = 1. combo(2,3,1)

The signal equation $\mathbf{O} = \mathbf{1}$ is a false equation, therefore the last frame has no solution. Because the toolkit neither creates nor destroys solutions, then the first frame, which is the original system, has **no solution**.

Perplexing Frames

Values cannot be assigned to any variables in the case of no solution. This can be perplexing, especially in a final frame like

\boldsymbol{x}	=	4,
\boldsymbol{z}	=	-1,
0	=	1.

While it is true that x and z were assigned values, the final signal equation 0 = 1 is false, meaning any answer is impossible.

There is no possibility to write equations for all variables. There is no solution. It is a tragic error to claim x = 4, z = -1 is a solution.