CGT 2 Arrays	15 Lecture 7	
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## Arrays

- □ *Arrays* are data structures consisting of related data items of the same type.
- Arrays are fixed-length entities they remain the same length once they are created, although an array variable may be reassigned such that it refers to a new array of a different length.

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	Column 0	Column I	Column 2	Column 3
w 0	a[ 0, 0 ]	a[ 0, 1 ]	a[ 0, 2 ]	a[ 0, 3 ]
v I	a[ 1, 0 ]	a[ 1, 1 ]	a[ 1, 2 ]	a[ 1, 3 ]
v 2	a[ 2, 0 ]	a[ 2, 1 ]	a[ 2, 2 ]	a[ 2, 3 ]











In	itializing (3 ways to do the same thing)	
	//continued from previous slide	
	<pre>cat[,] litter = new cat[2,2] {{kitten1, kitten2},</pre>	
	OR	
	<pre>cat[,] litter = new cat[,] {{kitten1, kitten2},</pre>	
	OR	
	<pre>cat[,] litter = {{kitten1, kitten2},</pre>	
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$ralution1 = \int \int 7 9 2 3 5 1 8 4 6$	
{4,6,8,9,2,7,5,1,3},	
{1,3,5,6,8,4,7,9,2}, {6,2,1,5,7,9,4,3,8},	
{5,8,3,2,4,6,1,7,9},	
$\{9,7,4,8,1,3,2,6,5\},$	
{8,1,6,4,9,2,3,5,7}, {3,5,7,1,6,8,9,2,4},	
{2,4,9,7,3,5,6,8,1}	
};	
1	<pre>  solution1 = { {7,9,2,3,5,1,8,4,6 },</pre>

D	Declare a 3	x8 array of integer	S
	<pre>//Declare array private int[,] private int r=0</pre>	and variables colors; g=1, b=2; //rows	
	<pre>//create new in colors = new in</pre>	tance - 3 rows (r,g,b), 8 col [3,8];	umns
	//set a value		
	colors[r,3] = 1	//set row 0, column 4 equal	to 1
	colors[r,4] = 0	//set row 0, column 5 equal	to O
	colors[r,5] = 1	<pre>//set row 0, column 6 equal</pre>	to 1
	colors[g,0] = 0	//set row 1, column 1 equal	to O
	colors[g,1] = 0	//set row 1, column 2 equal	to O
	colors[g,2] = 1	//set row 1, column 3 equal	to 1

Declare a 3x8 array of integers	
□ //Alternately:	
<pre>private int[,] colors = {{0,0,0,0,0,0,0,0},</pre>	
<pre>//then colors[b,5] = 1; //set row 2, column 6 equal to 1 colors[b,6] = 0; //set row 2, column 7 equal to 0 colors[b,7] = 1; //set row 2, column 8 equal to 1</pre>	
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