

# pset 3: Scramble

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# pset 3

0. A Section of Questions
1. Scramble

# Toolbox

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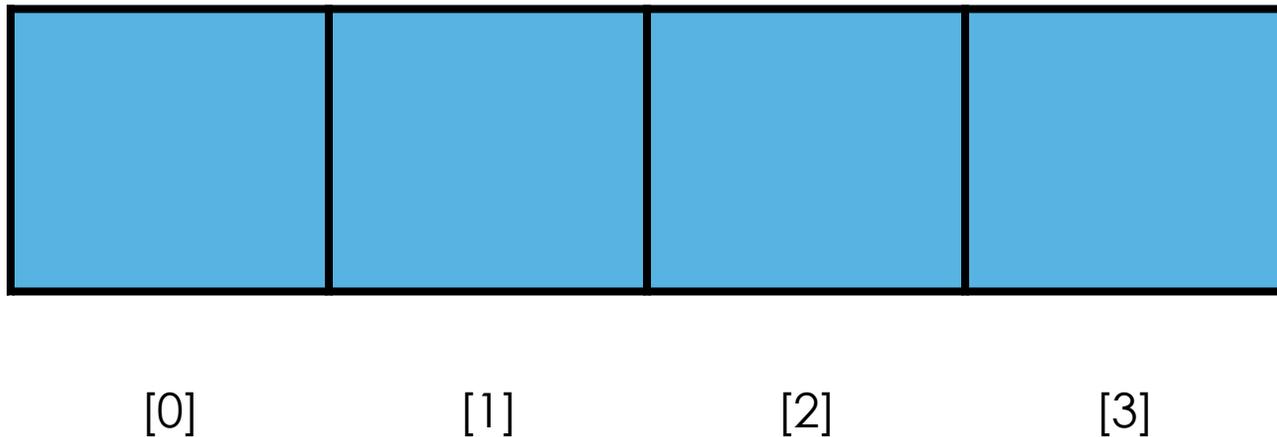


- `sudo yum -y update`
- 2D Arrays
- Functions
- Distribution code

# 1D Arrays

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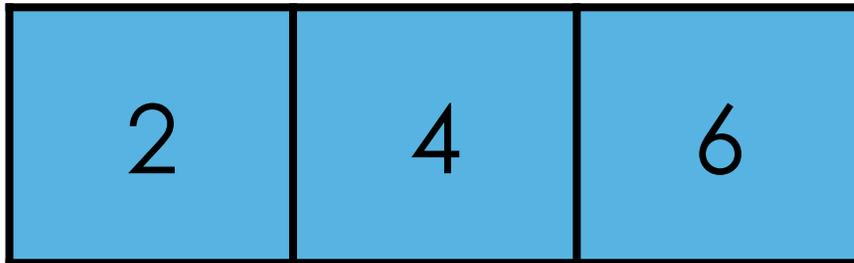
- Data structures that hold multiple values of the same type
- Entries are zero-indexed



# 1D Arrays

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```
int values[3];  
values[0] = 2;  
values[1] = 4;  
values[2] = 6;
```



[0]

[1]

[2]

# 2D Arrays

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```
int values[3][3];
```

col →  
row ↓

	[0]	[1]	[2]
[0]	2	4	6
[1]	3	6	9
[2]	4	8	12

# Iterating over a 2D array

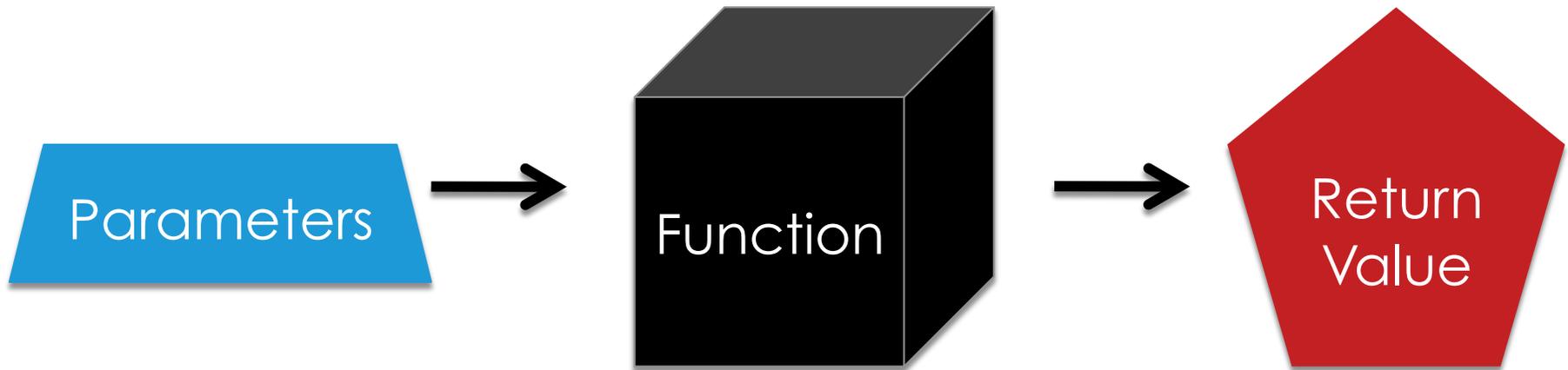
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- How to reach every single value?
- Reach all possible combinations of row and column indices.

2d.c

# Boolean Functions

- You have a function: **bool** foo(**int x, int y**)



```
if ( foo(5, 9) )  
{  
    // do something  
}
```

# Scramble TODOs

- ❑ Read distribution code
- ❑ draw
- ❑ lookup
- ❑ scramble
- ❑ case insensitivity

# Distribution code

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- Read it once
- Now read it again
- ... and again

# Distribution code

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- Srsly, read it

# Draw

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- You have some freedom!
- Iterate over grid, print all elements.

# 4x4 Array

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col →  
row ↓

	[0]	[1]	[2]	[3]
[0]	[0][0]	[0][1]	[0][2]	[0][3]
[1]	[1][0]	[1][1]	[1][2]	[1][3]
[2]	[2][0]	[2][1]	[2][2]	[2][3]
[3]	[3][0]	[3][1]	[3][2]	[3][3]

# Lookup

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- Returns true if:
  - ▣ Word is in the dictionary, and
  - ▣ Word hasn't been found already
- dictionary
  - ▣ has a size, and a word array
  - ▣ dictionary.size
  - ▣ dictionary.words
- word: what is a word?

# Scramble

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- Rotates the board 90 degrees clockwise ↻
- `grid[0][0] → grid[0][DIMENSION-1]`

# Case Insensitivity

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- dictionary words are all uppercase
- ... but user input is mixed case
  - ▣ FoO, FOO, foo, fOo...
- If “FOO” is in dictionary, those inputs should all be valid

this was walkthrough 3