

# Array Syntax II

CS 124 – Intro to Software Development

Macbeth – Lesson 8.2



# Agenda

---

- Opening Prayer
- Spiritual Thought
- Array Syntax Review
- MadLib Project
- Looking Ahead

# Spiritual Thought

---

## Sue Clark (BYUI Devotional - 2015)

"Make it your motto: Be where I am supposed to be when I am supposed to be there, and be prepared. If you follow this pattern in your life, it will help you lay the foundation for accepting the Savior's invitation to come unto Him and qualify for exaltation and eternal life with our Father in Heaven."

# Array Quiz

---

All 4 of these array declarations will compile, however, one of these is discouraged:

- A) `int data[5];`
- B) `int data[x];`
- C) `int data[] = {1, 1, 2, 3, 5};`
- D) `int data[5] = {1, 1, 2, 3, 5};`

**B**

# Array Quiz

---

Which statement will set the last element of an integer array of size 10:

- A) `data[9] = 32;`
- B) `data[10] = 32;`
- C) `data[11] = 32;`
- D) `data + 10 = 32;`

**A**

# Array Quiz

---

Which of the following expressions will cause a compiler error with a integer array of size 10:

- A) `data[100] = 987;`
- B) `data[9] = data[8];`
- C) `data = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10};`
- D) `data[0] = (int)(data[1] == data[2]);`

**C**

# Array Quiz

---

What is the best loop to traverse an array of floats:

- A) while loop
- B) do-while loop
- C) for loop
- D) loops are not the best tool to use

**C**

# Array Quiz

---

What is the best loop to traverse an array of chars:

- A) while loop
- B) do-while loop
- C) for loop
- D) loops are not the best tool to use

**A**



# Array Quiz

---

Which of the following is not a true statement about the difference between int arrays and char arrays:

- A) Compiler does not know what an int array represents but it knows that a char array represents text (e.g. sentence)
- B) You can compare the contents of the entire char array with "==" but you can't do that with an int array.
- C) You can cout an entire char array but you can't cout an entire int array.
- D) You can populate a char array using cin but an int array must be populated one element at a time.

**B**

# Array Quiz

---

What is the maximum length of a word that can fit into `char word[20];`

- A) 18
- B) 19
- C) 20
- D) 21

**B**

# Array Quiz

---

What for loop would you most likely use to traverse an array of 20 elements?

- A) `for (int i=1; i<=20; i++)`
- B) `for (int i=0; i<=20; i++)`
- C) `for (int i=0; i<20; i++)`
- D) `for (int i=0; i>20; i++)`

**C**

# Array Quiz

---

What for loop would you use most likely use to traverse an array of 20 elements backwards?

- A) `for (int i=20; i>=1; i--)`
- B) `for (int i=19; i>=0; i--)`
- C) `for (int i=20; i>0; i--)`
- D) `for (int i=19; i>0; i--)`

**B**

# Array Quiz

---

What while loop would you most likely use to traverse a char array?

- A) `while(data)`
- B) `while(data[i] != 0)`
- C) `while(data[i] == 0)`
- D) `while(data[i] > 0)`

**B**

# Array Quiz

---

If you need a function to traverse an integer array, which of the following might you use:

- A) `void traverseArray(int data[], int size)`
- B) `void traverseArray(int data[10])`
- C) `void traverseArray(int data[])`
- D) `void traverseArray(int &data, int size)`

**A**



# Array Quiz

---

If you need a function to traverse an char array, which of the following might you use:

- A) `void traverseArray(char data[], int size)`
- B) `void traverseArray(char data[10])`
- C) `void traverseArray(char data[])`
- D) `void traverseArray(char &data, int size)`

**C**

# Array Quiz

---

Which of the following statements is false about passing arrays:

- A) The array is passed by reference (it can be updated) but "&" is not used
- B) The size of the array is unknown so an additional size variable is recommended. For char arrays, the size is not needed since you can search for the NULL (0) character with a while loop.
- C) A parameter shown as "int data[]" tells the compiler that the parameter represents an array of unknown size that contains integers.
- D) When you pass an array into a function you must put []'s next to it. For example, if you have a function called update that takes an integer array as an input, you would write:  
update(data[]);

**D**

# Array Quiz

---

If declaring an integer array of size 10 looks like this: `int data[10];`

Then how would I declare an array of size 20 where each element contains an array of 10 integers inside it?

- A) `int data[10][20];`
- B) `int (data[10])[20];`
- C) `int data[20][10];`
- D) `int[20] data[10];`

**C**

# Array Quiz

---

How would I declare an array of 20 words where each word can be upto 100 characters in length (including the null character added by the compiler)?

- A) `char words[20][100];`
- B) `char words[100][20];`
- C) `char words[][20];`
- D) `char words[][100];`

**A**

# MadLib

---

Country

Number

Adjective

Adjective

# MadLib

---

For vacation we went to <country> for <number> days . The weather was <adjective> but <#> that was okay because my friend always said <{> When the going gets tough , the tough get <#> <adjective> . <}> .

## Special Punctuation Tags

<#> = Newline

<{> = Open Double Quote

<}> = Close Double Quote

<[> = Open Single Quote

<]> = Close Single Quote

All the other <word> tags are called Question Tags. These need to be replaced with user input.



# Looking Forward

---

- Read the textbook chapter shown in I-Learn
- Attempt the assignment and be prepared with questions that you want to get answer to during the next class
- Work on your MadLib Project 08