

# CS120 Lab 8 Section 6

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## Quiz for Week 7 Answers

(5 pt) Answer the following questions based on the following array declaration:

```
int hand[5];
```

- ▶ How many elements (pieces of data) can the array hand store?

Answer: 5

Declare an array:

```
int arrayName [ lengthOfArray ];
```

and `int` is arrayName's Data Type.

- ▶ The index of the first element of the array?

Answer: 0

Array indices are 0-based.

- ▶ What is the index of the last element of the array?

Answer: 4

Since array indices are 0-based, index of the last element of the array comes out to be `lengthOfArray - 1`.

## Quiz for Week 7 **Answers** (continued)

(5 pt) Answer the following questions based on the following array declaration:

```
int hand[5];
```

- ▶ Write a line of code to assign the second element of the array the value 7.

Answer: `hand[ 1 ] = 7;`

Since array indices are **0-based**, index of the **second** element of the array comes out to be **2 - 1**, and continue...

- ▶ Write a line of code to print the last element of the array.

Answer: `cout << hand[ 4 ];`

Since array indices are **0-based**, index of the **last** element of the array comes out to be **lengthOfArray - 1**, and continue...

## Quiz for Week 8 Answers

(5 pt) Answer the following questions based on the following class declaration:

```
class circle {  
    public:  
        void print();  
    private:  
        int x;  
        int y;  
        float radius;  
};
```

- ▶ Write the code for a default constructor of the class circle that sets the location (x,y) to 0,0 and the radius to 1.

```
circle::circle() {  
    x = 0;  
    y = 0;  
    radius = 1.0;  
}
```

## Quiz for Week 8 **Answers** (continued)

```
class circle {  
    public:  
        void print();  
    private:  
        int x;  
        int y;  
        float radius;  
};
```

- Write the code for the print() function so that circles are printed as:

**A circle at x,y has radius r**

Where x, y, and r are the values for the circle object.

```
void circle::print() {  
    cout << "A circle at " << x << ", " << y  
        << " has radius " << radius << endl;  
}
```

## Quiz for Week 8 **Answers** (continued)

```
class circle {  
    public:  
        void print();  
    private:  
        int x;  
        int y;  
        float radius;  
};
```

- ▶ Write the statement(s) to create an array of 100 circles.  
`circle whateverArrayNameHere[ 100 ];`
- ▶ Write the statement(s) to print the 3rd object in the array of question 3.  
`whateverArrayNameHere[ 2 ].print();`
- ▶ Write the statement(s) to print the last object in the array of question 3.  
`whateverArrayNameHere[ 99 ].print();`

# Scores of Quiz Week 7

## ► Quiz for Week 7 Distribution:

Score	0	1	2	3	4	5	Missed
Section 4 Count (22)	0	0	7	6	1	4	4
Section 6 Count (24)	1	2	1	5	4	3	8

## ► Lab 7:

- I have not got the grading criteria yet.
- Will hand back to you as soon as I grade them.

# Emacs

- ▶ The reason why I like Emacs:
  - ▶ Emacs is an **operating system**;
  - ▶ Just like iphone/ipad changed human being's life, emacs **makes programmer's life so much easier~!**
  - ▶ Most popular packages:
    - ▶ **autocomplete**
    - ▶ **yasnippet**
    - ▶ **org-mode**
    - ▶ autopair
    - ▶ AUCTex
- ▶ Personal Experience:
  - ▶ when I took CS120 we don't have labs at all, and I have never been exposed to **emacs** or **vim** command based editors;
  - ▶ From my experience, I hope you guys can be exposed to these command-based editors **as soon as possible**.
- ▶ Contents that will be covered in this lab:
  - ▶ **basic commands** that emacs programmers use every day;
  - ▶ one line **configuration** for line number



# Emacs Basic Commands

- ▶ google "**Emacs cheat sheet**"
- ▶ Motion

entity to move over	backward	forward
character	C-b	C-f
word	M-b	M-f
line	C-p	C-n
go to line beginning/end	C-a	C-e

- ▶ other commands

search forward	C-s
search backward	C-r
scroll to next screen	C-v
scroll to previous screen	M-v
goto line	M-g g
set mark here	C-SPC or C-@
copy region to kill ring	M-w
yank back last thing killed	C-y

# Emacs configure Line Number

- ▶ command option
  - ▶ works for current buffer
  - ▶ commands: `M-x linum-mode RET`
- ▶ permanent configuration in home directory
  - ▶ go to home directory: `pwd` —> `/home/huan3416`
  - ▶ `man ls`, check `-a`, `-l`, `-t` options; type `q` to quit from `man` results
  - ▶ `ls -a`: check if there is an emacs configuration file named `.emacs`
  - ▶ If not, create `.emacs` file by typing `emacs .emacs` in terminal
  - ▶ type `(global-linum-mode 1)` in the file
  - ▶ `C-x C-s` to `save` the file
  - ▶ `C-x C-c` to `exit` from emacs
- ▶ later on when you have questions, please try to use `emacs`, or if you prefer to use `vim`

# Lab 8 Specific Requirements

- ▶ **cscheckin:**
  - ▶ **Source Programs** only
    - ▶ **fraction.h**
    - ▶ **fraction.cpp**
    - ▶ **man tar** check for **-c**, **-v**, **-f** options
    - ▶ **tar** programs command:  
**tar -cvf Lab8Sec6.zip fraction.h fraction.cpp**
- ▶ **Hard Copy:**
  - ▶ **Source Program:** **Lab8Sec6.zip**
    - ▶ **fraction.h**
    - ▶ **fraction.cpp**
  - ▶ **Script Output** of the program