CS120 Lab 8 Section 4

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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.

(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 -cvf Lab8Sec4.zip ./

- Hard Copy:
  - Source Program: Lab8Sec4.zip
    - fraction.h
    - fraction.cpp
  - Script Output of the program