DEFAULT PARAMETERS, OPERATOR OVERLOADING FRIEND FUNCTIONS

Problem Solving with Computers-II

https://ucsb-cs24-sp17.github.io/

```
#include <iostream>
using namespace std;

int main(){
    cout<<"Hola Facebook\n";
    return 0;
}
```

Read the syllabus. Know what's required. Know how to get help.

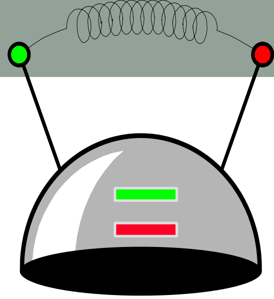
CLICKERS OUT – FREQUENCY AB

Attention all female students

- Women in Computer Science (WICS) is holding a special coffee hour themed “HOW TO SUCCEED IN CS?”
- When? Friday (04/21) at 1:30pm
- Where? HFH 1132

- Please plan to attend! RSVP via this form: https://goo.gl/forms/yPlMyFUN7mWx0vCs1

Review: Constructor



Which constructor is called when the following statement is executed?

```
thinking_cap student;
```

```
class thinking_cap
{
public:
    thinking_cap();                                      //A
    thinking_cap(char new_green[], char new_red[]); //B
    void slots(char new_green[ ], char new_red[ ]);
    void push_green( ) const;
    void push_red( ) const;
private:
    char green_string[50];
    char red_string[50];
};
```

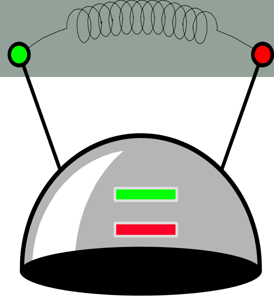
//C: Default copy constructor
//D: Default assignment operator
//E: None of the above

Default values

```
int sum(int a=10, int b=20){
        return a+b;
}

int main(){
        int x= 40, y=50;
        cout<<sum(x,y)<<endl;
        cout<<sum(x)<<endl;
        cout<<sum()<<endl;
}
```

Specify default constructor using default arguments



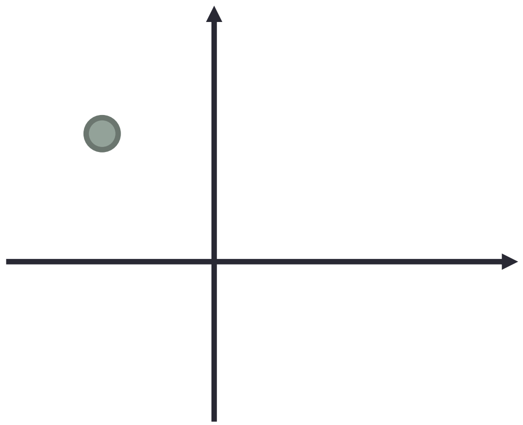
Which constructor is called when the following statement is executed?

```
thinking_cap student;
```

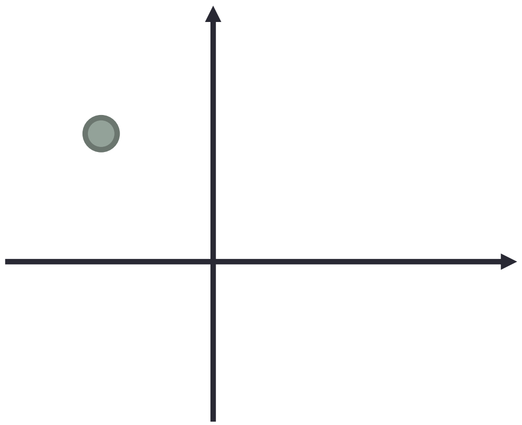
```
class thinking_cap
{
public:
    thinking_cap(char new_green[]=“Hello”, char new_red[]=“there”); //A
    void slots(char new_green[ ], char new_red[ ]);
    void push_green( ) const;
    void push_red( ) const;
private:
    char green_string[50];
    char red_string[50];
};
```

//B: Default copy constructor
//C: Default assignment operator
//D: None of the above

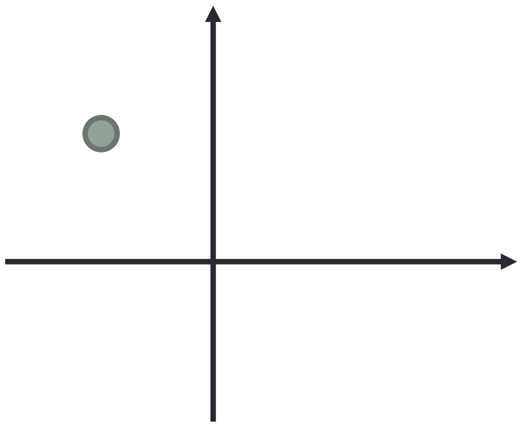
The point class (Chapter 2, section 2.4)



point: (x,y)



shift(delx, dely)



rotate90()

Let’s look at the implementation of the point class

Passing point objects as parameters

```
double distance(point p1, point p2);
```

//Precondition: p1 and p2 are point objects that have been initialized

//Post condition: returns the Euclidean distance between the two points

Would you implement the above function as a member function or a non-member function? Write your reason and discuss with your peer group.

A. Member function

B. Non-member function

C. Neither

Both A and B work, but B is a better way to go because it puts an equal emphasis on both points

Passing point objects as parameters

```
double distance(point p1, point p2);
```

//Precondition: p1 and p2 are point objects that have been initialized
//Post condition: returns the Euclidean distance between the two points

Which of the following is invoked when the distance function is called on s1 and s2 (line 2):

```
point s1(1,1), s2; //line 1
cout<<distance(s1, s2); //line 2
```

A. Default constructor
B. Default assignment operator
C. Default copy constructor

Next time

- Wrap up chapter 2, gdb