

CIS 101 — Quiz 9

Consider the rectangle class which we covered last week.

```
class rectangle {
public:
    void setwidth(int w){width=w;}
    void setlength(int l){length=l;}
    int diagonal(){return (sqrt(pow(width,2)+pow(length,2)));}
    int area(){return length*width;}
    void addrec(rectangle myrec){
        length = length + myrec.length; width = width + myrec.width;
    }
private:
    int width; int length;
};
```

Problem 1: Is the following piece of code correct? Why?

```
void main(){
    rectangle myrec;
    myrec.length=10; myrec.width=5;
}
```

No, because length and width are private variables.

Problem 2: Write code that (a) creates a rectangle, (b) sets the length and width to 2 and 1 respectively, and (c) computes the area and diagonal.

```
rectangle myrec;
myrec.setlength(2); myrec.setwidth(1);
myrec.area(); myrec.diagonal();
```

Problem 3: Write a new public class function called doublesize which doubles the length and width of the rectangle.

```
void doublesize(){
    length = length * 2;
    width = width * 2;
}
```

Problem 4: Consider the following piece of code:

```
void main(){
    rectangle myrec, myrec2;
    myrec.setlength(2); myrec.setwidth(4);
    myrec2.setlength(1); myrec2.setwidth(8);
```

```
    myrec.addrec(myrec2);  
}
```

What is the length and width of myrec and myrec2 after this code is executed?

myrec length and width is 2 and 4, and myrec2 length and width is 3 and 12.