NetID: hxie13 QuizID: 66554 Score: 2 / 5 Answer Source: PrairieLearn

1. Consider this simple example

```
class Pumpkin {
    public:
        Pumpkin(double radius, int * seeds)
        Pumpkin(const Pumpkin & other);
        ~Pumpkin();
        // more public member functions

    private:
        double radius;
        int *seeds;
        // more private member variables
};
```

Which of the following functions must also be implemented for the `Pumpkin` class for it to function correctly?

A. [Your Answer] No Parameter Constructor
B. `operator()`
C. `operator delete`
D. [Correct Answer] `operator=`
E. `setRadius()`

2. Consider this simple example.

```
int * a;
int * b;
b = new int(5);
a = b;
*a = 9;
cout << *b << endl;
delete b;
a = NULL;
b = NULL;
```

What is the result of executing these statements if you assume the standard `iostream` library has been included?

A. The memory address of `b` is sent to standard out.
B. [Correct Answer] [Your Answer] `9` is sent to standard out and no memory is leaked.
C. This code results in undefined runtime behavior.
D. This code has a memory leak.
E. None of the other options describes the behavior of this code.
F. `5` is sent to standard out and no memory is leaked.

3. Consider this simple example.

```
int * p;
int i;
i = 37;
*p = i;
*p = 99;
cout << i << endl;
```

What is the result of executing these statements, assuming that `iostream` is included?

A. [Your Answer] This code has a memory leak.,
B. `37` is sent to standard out.
C. This code does not compile.
D. None of the other options describes the behavior of this code.
E. `99` is sent to standard out.
F. [Correct Answer] This code results in undefined runtime behavior.

4. Which of the following is a reasonable function signature for the overloaded addition operator in the `sphere` class, if we want that operator to return a `sphere` whose radius is the sum of the radii of the left and right arguments?

A. `sphere & sphere::operator+(const sphere & right) const;`
B. `sphere & sphere::operator+();`
C. [Correct Answer] `sphere sphere::operator+(const sphere & right) const;`
D. `void sphere::operator+(sphere right);`
E. [Your Answer] `sphere sphere::operator+(const sphere & left, const sphere & right);`

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

class Bear {
    public:
        Bear() { cout << "Growl "; }
        ~Bear() { cout << "Stomp stomp stomp "; }
};

int main() {
    Bear beary;
    cout << "Run! ";
    return 0;
}
```

5. What is the result of compiling and executing this code?

A. `Run! Stomp stomp stomp`
B. This code does not compile.
C. `Growl Run!`
D. [Correct Answer] [Your Answer] `Growl Run! Stomp stomp stomp`
E. `Run!`