

Virtual Functions Part Three

Exercises

- Briefly describe how virtual member functions are implemented

- Give one advantage of using virtual member functions
- Give one disadvantage of using virtual member functions

- Explain why a base class should always have a virtual destructor implemented

- In the program you wrote in the previous lesson, add a non-virtual destructor function to your classes, including the child classes. Something like this:

```
class Drawable {  
public:  
    virtual void draw() { cout << "I'm a Drawable shape!\n"; }  
    ~Drawable() { cout << "Drawable shape says goodbye!\n"; }  
};
```

- What output do you expect to see?
- Compile and run the program and compare the results

- Now make the destructor of Drawable virtual:

```
class Drawable {  
public:  
    virtual void draw() { cout << "I'm a Drawable shape!\n"; }  
    virtual ~Drawable() { cout << "Drawable shape says goodbye!\n"; }  
};
```

- What output do you expect to see?
- Compile and run the program and compare the results
- Explain any differences from the previous output
- Why is this important?