

Philip Pesic

Week 14

November 20 2022

Week 14 Prog 3

Setup the Virtual function to ENABLE the later selection of the desired function in
polymorphism

Create an animal base class.

```
string animalName;
```

```
string sound;
```

```
virtual animalSound()      { cout << AnimalName << " says " << sound << endl; }
```

Create / SETUP 4 new derived classes based on animal, that OVERRIDE the virtual function,
animalSound, with the specific animal noise,

and assign the animal name to the base animal name variable.

```
cat
```

```
dog
```

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elephant

mouse

Declare instances of each of the 4 different animals. C1, D1, E1, M1.

Write a **switch** statement that prints out the animal noise, depending on which animal is chosen.

prompt the user for the type of animal, compare with switch statement, and print out animal sound.

```
//
```

```
// main.cpp
```

```
// Week 14 Prog 3
```

```
//
```

```
// Created by Pippo Pesic on 11/17/22.
```

```
//
```

```
#include <iostream>
```

```
#include <string>
```

```
using namespace std;
```

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```
class Animal {  
    string animalName;  
    string sound;  
public:  
    Animal(string n, string s) {  
        animalName = n;  
        sound = s;  
    }  
    virtual void animalSound() {  
        cout << animalName << " says " << sound << endl;  
    };  
};
```

```
class Cat : public Animal {  
public:  
    Cat () : Animal("cat", "meow") {}  
};
```

```
class Dog : public Animal {  
public:  
    Dog () : Animal("dog", "bark") {}
```

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```
};
```

```
class Elephant : public Animal {
```

```
public:
```

```
    Elephant () : Animal("elephant", "squeal") {}
```

```
};
```

```
class Mouse : public Animal {
```

```
public:
```

```
    Mouse () : Animal("mouse", "squeak") {}
```

```
};
```

```
int main() {
```

```
    char animal;
```

```
    Cat c1;
```

```
    Dog d1;
```

```
    Elephant e1;
```

```
    Mouse m1;
```

```
    cout << "Select an Animal (C, D, E, M) - ";
```

```
    cin >> animal;
```

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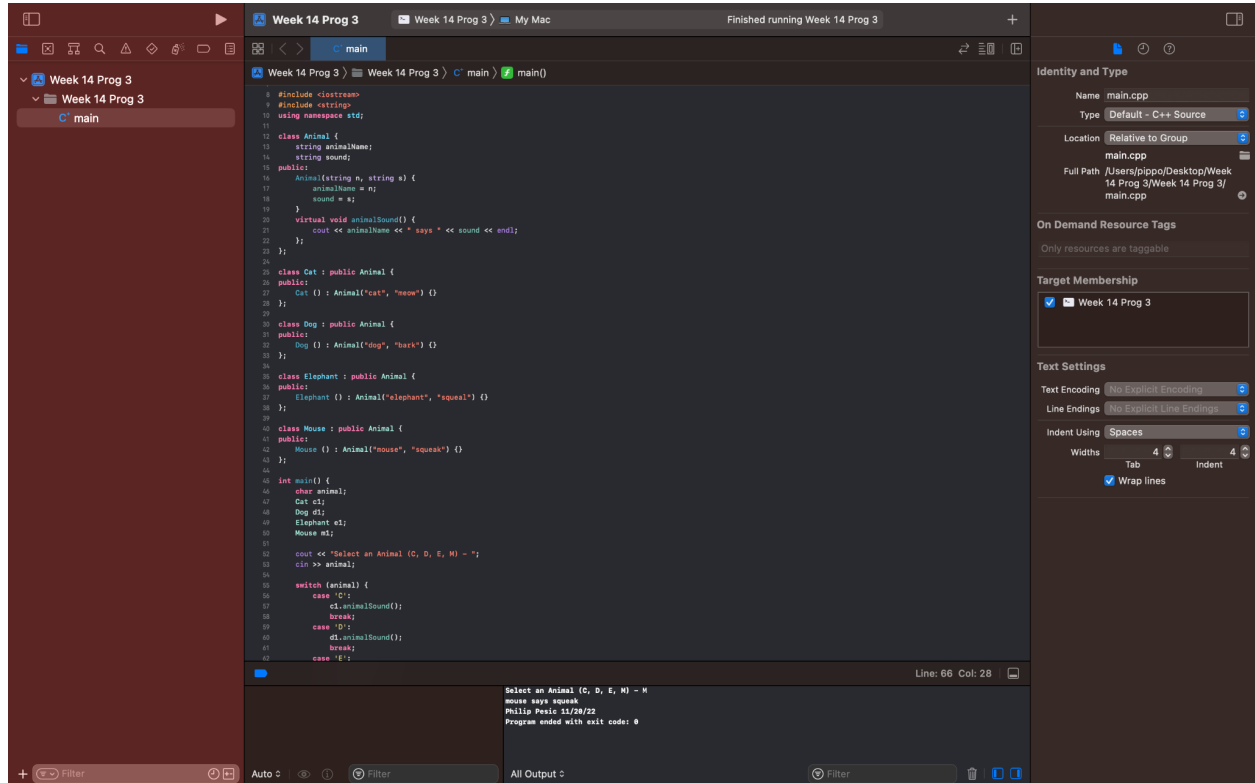
```
        switch (animal) {  
            case 'C':  
                c1.animalSound();  
                break;  
            case 'D':  
                d1.animalSound();  
                break;  
            case 'E':  
                e1.animalSound();  
                break;  
            case 'M':  
                m1.animalSound();  
                break;  
            default:  
                cout << "Invalid Animal" << endl;  
        }  
        cout << "Philip Pesic 11/20/22" << endl;  
        return 0;  
    }
```

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I learned: how to write several polymorphic functions from one base