

```

#ifndef ANIMAL_H
#define ANIMAL_H

class Product {
public:
    Product(double cost = 0) : price(cost), year_of_birth(0)
        {cout << "Product Constructor" << endl;}
    ~Product() {cout << "Product Destructor" << endl;}
protected:
    int price;
    int year_of_birth;
};

class Animal {
public:
    Animal(int year, bool printp = false) :
        year_of_birth(year), print_p(printp)
        {if (printp) cout << "Animal Constructor" << endl;}
    ~Animal()
        {if (print_p) cout << "Animal Destructor" << endl;}
    int Number() const {return year_of_birth;}
    virtual bool WarmUp() const
        {cout << "Unknown method" << endl; return false;}
protected:
    int year_of_birth;
    bool print_p;
};

```

```

class Mammal : public Animal {
public:
Mammal(int year, bool printp = false) : Animal(year,
printp)
    {if (print_p) cout << "Mammal Constructor" << endl;}
~Mammal()
    {if (print_p) cout << "Mammal Destructor" << endl;}
int Number() const {return year_of_birth + 1;}
bool WarmUp() const {cout << "Shiver" << endl; return
true;}
protected:
};

```

```

class Quagga : public Mammal {
public:
Quagga(int year1, int year2, bool printp = false)
    : Mammal(year1, printp), year_of_death(year2)
    {if (print_p) cout << "Quagga Constructor" << endl;}
~Quagga()
    {if (print_p) cout << "Quagga Destructor" << endl;}
int Number() const {return year_of_death;}
protected:
    int year_of_death;
};

```

```
class Fish : public Animal, public Product {
public:
Fish(int year, double price, double depth, bool printp =
false)
    : Animal(year, printp), Product(price),
ocean_depth(depth)
    {if (print_p) cout << "Fish Constructor" << endl;}
~Fish()
    {if (print_p) cout << "Fish Destructor" << endl;}
virtual bool WarmUp() const
    {cout << "Swim Up" << endl; return true;}
protected:
    int ocean_depth;
};
```

```
#endif // ANIMAL_H
```