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Subject: Re: Cloning Array of complexe type  
Posted by [koldo](#) on Wed, 25 Mar 2020 17:34:30 GMT  
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This is not perfect, but I think it works.  
(IMHO this is a little overcomplex for me :( )

```
#include <Core/Core.h>

using namespace Upp;

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using namespace Upp;

class A : MoveableAndDeepCopyOption<A> {
public:
    int one = 1;
    int two = 2;

    A() {}
    virtual ~A() {}

    virtual int sum() const = 0;
    A(const A& a, int) {
        one = a.one;
        two = a.two;
    }

    virtual A* clone()const = 0;
};

class B : public A {
public:
    int three =3;

    //Constructor
    B(){}
    B(const B& b, int){
        one = b.one;
        two = b.two;
        three = b.three;
    }

    virtual ~B(){}
}

//Function
virtual int sum()const{
    return one +two +three;
```

```

}

virtual B* clone()const {return new B(*this);}
};

class C : public A{
public:
int four =4;

//Constructor
C(){}
C(const C& c, int){
one = c.one;
two = c.two;
four = c.four;
}
virtual ~C(){}

//Function
virtual int sum()const{
return one +two +four;
}
virtual C* clone()const {return new C(*this);}
};

CONSOLE_APP_MAIN
{
ArrayMap<Upp::String, A> myArrays;
myArrays.Create<B>("FirstElement").one = 10;
myArrays.Create<B>("SecondElement").two =0;
myArrays.Create<C>("ThirdElement");

Cout() << myArrays.Get("FirstElement").sum() << EOL; //Correct print 15
Cout() << myArrays.Get("SecondElement").sum() << EOL; //Correct print 4
Cout() << myArrays.Get("ThirdElement").sum() << EOL; //Correct print 7

ArrayMap<Upp::String, A> aCopy;
for (int i = 0; i < myArrays.GetCount(); ++i)
aCopy.Add(myArrays.GetKey(i), pick(myArrays[i].clone()));

myArrays.Clear(); //Clearing the base Array

Cout() << aCopy.Get("FirstElement").sum() << EOL; //If the copying goes well it should print 15
even if base array have been destroyed
Cout() << aCopy.Get("SecondElement").sum() << EOL;//If the copying goes well it should print 4
even if base array have been destroyed
Cout() << aCopy.Get("ThirdElement").sum() << EOL;//If the copying goes well it should print 7
even if base array have been destroyed
}

```

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