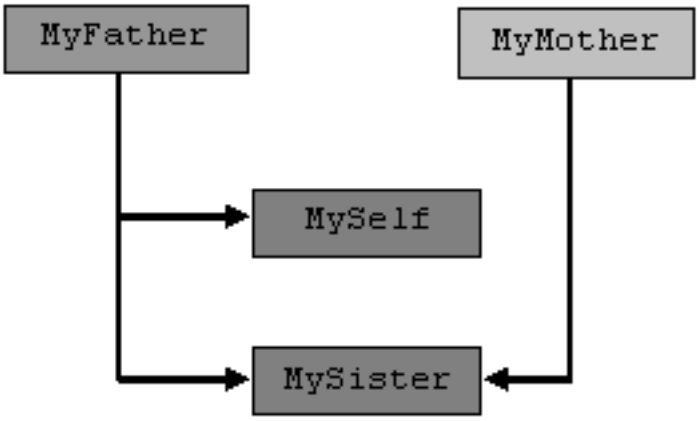
Exercises

Exercise 1:

- Write Let have program examples demonstrating the multi inheritance. The simple class hierarchy for this program example is illustrated below. What is the output for the following codes::




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

// a class declaration part
// the base class....

class MyFather

{
  protected:
        string EyeColor;
        string HairType;
        string FamSaving;
        int FamCar;
  public:
        MyFather(){}
        ~MyFather(){}
        string ShowEyeColor();
        string ShowHairType();
        int FamilyCar();
};
```

```
// another base class...
class MyMother
{
  // notice the same member variables names
  // as in MyFather class...
  protected:
       string EyeColor;
       string HairType;
       int FamHouse;
  public:
       MyMother(){}
       ~MyMother(){}
       string ShowMotherEye();
       string ShowMotherHair();
       int FamilyHouse();
};

// single inheritance derived class...
// aaahhh!!! my class :-) finally!!!
class MySelf:public MyFather
{
 // another member variables with same names...
private:
  string HairType;
  string Education;
public:
    MySelf(){ }
    ~MySelf(){ }
    string ShowMyHair();
    string ShowMyEducation();
};

// a class implementation part
string MyFather::ShowEyeColor()
{return EyeColor = "Brown";}
string MyFather::ShowHairType()
{return HairType = "Bald";}


int MyFather::FamilyCar()
{return  FamCar = 4;}
string MyMother::ShowMotherEye()
{return EyeColor = "Blue";}
string MyMother::ShowMotherHair()
{return HairType = "Curly Blonde";}

int MyMother::FamilyHouse()
{return FamHouse = 3;}
string MySelf::ShowMyHair()
{return HairType = "Straight Black";}
string MySelf::ShowMyEducation()
{return Education = "Post Graduate";}
```

```
// the main program

int main()

{
     // instantiate the objects...
      MyFather ObjFat;
      MyMother ObjMot;
      MySelf ObjSelf;

      cout<<"--My father's data--"<<endl;
      cout<<"His eye: "<<ObjFat.ShowEyeColor()<<"\n"<<"His hair:
"<<ObjFat.ShowHairType()<<"\n"<<"Family Car: "<<ObjFat.FamilyCar()<<"
cars.\n";

      cout<<"\n--My mother's data--"<<endl;
      cout<<"Her eye: "<<ObjMot.ShowMotherEye()<<endl;
      cout<<"Her hair: "<<ObjMot.ShowMotherHair()<<endl;
      cout<<"Our family house: "<<ObjMot.FamilyHouse()<<"
houses."<<endl;

      // notice how to access the base/parent class member functions
      // through the child or derived objects...
      cout<<"\n--My data--"<<endl;
      cout<<"My Hair: "<<ObjSelf. ShowMyHair()<<endl;
      cout<<"My family car: "<<ObjSelf.MySelf::FamilyCar()<<"
cars."<<endl;
      cout<<"My education: "<<ObjSelf.ShowMyEducation()<<endl;

      return 0;
}
```

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