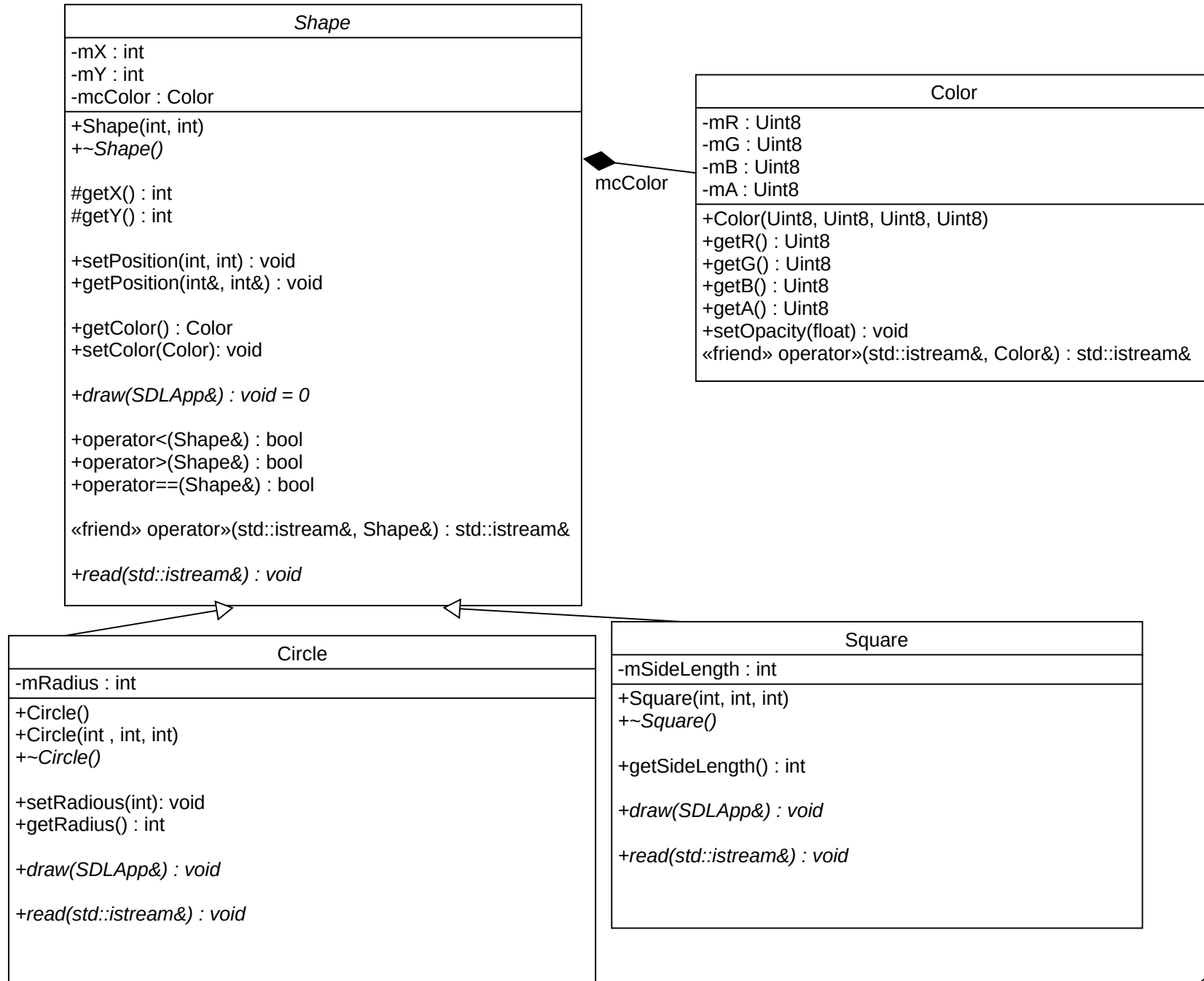


Virtual Friend

Shape Hierarchy



Color

```
std::istream& operator >> (std::istream &rcIn, Color &rcColor)
{
    int r, g, b, a;

    rcIn >> r >> g >> b >> a;

    rcColor.mR = static_cast<Uint8>(r);
    rcColor.mG = static_cast<Uint8>(g);
    rcColor.mB = static_cast<Uint8>(b);
    rcColor.mA = static_cast<Uint8>(a);

    return rcIn;
}
```

Shape

```
std::istream& operator >> (std::istream& rcIn, Shape &rcShape)
{
    rcShape.read (rcIn);

    return rcIn;
}

void Shape::read (std::istream &rcIn) // virtual
{
    rcIn >> mX >> mY;
    rcIn >> mColor;
}
```

Circle

```
void Circle::read (std::istream &rcIn) // virtual
{
    Shape::read (rcIn);
    rcIn >> mRadius;
}
```

ShapeDataBase

```
char shapeType;
Shape *pcShape = nullptr;

while (mcTheData >> shapeType)
{
    switch (shapeType)
    {
        case 'S':
            pcShape = new Square ();
            break;
        case 'C':
            pcShape = new Circle ();
            break;
    }
    mcTheData >> *pcShape;
    rcCollection.addShape(pcShape);
}
```