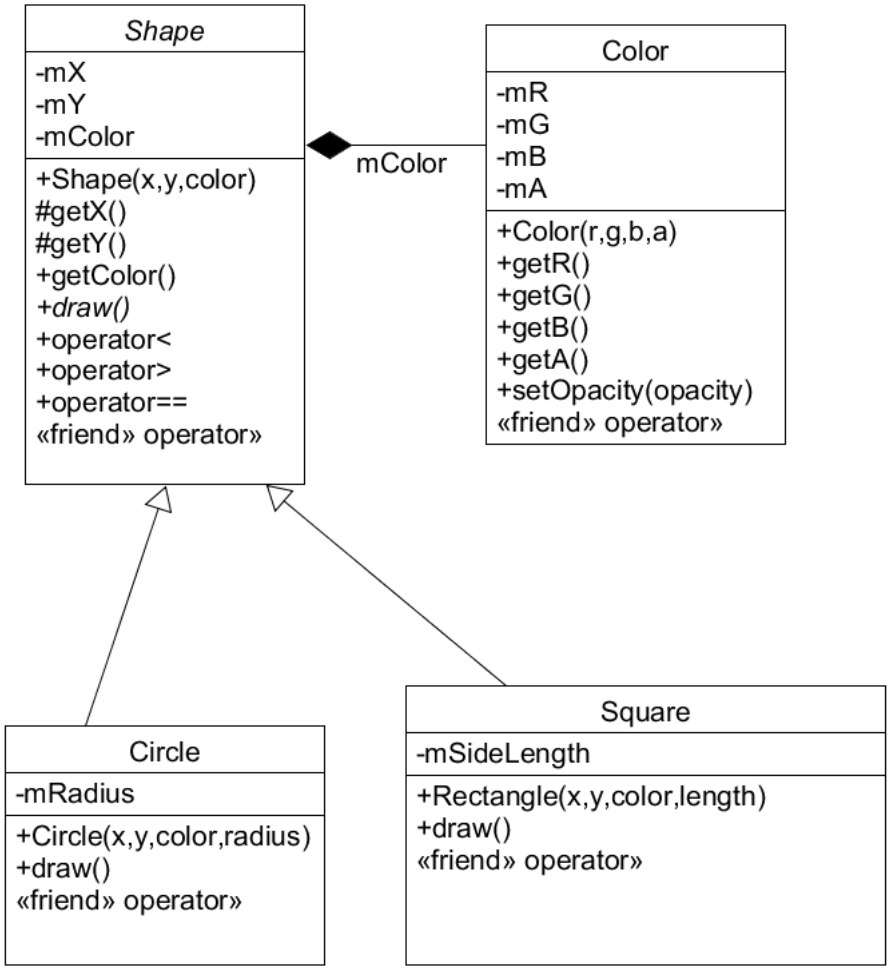
Shape Hierarchy



cs485s17/CS485_Student_Examples 03_InsertionOperatorPolymorphism

```
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;
}
```

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

   return rcIn;
}
```

```
std::istream & operator >> (std::istream & rcIn, Circle & rcCircle)
{
   rcIn >> static_cast<Shape& >(rcCircle);
   rcIn >> rcCircle.mRadius;

   return rcIn;
}
```

```
void ShapeDataBase::getCollection(Collection & rcCollection)
{
   char shapeType;
   Circle *pcCircle;
   Square *pcSquare;

   while (mTheData >> shapeType)
   {
      switch (shapeType)
      {
      case 'S':
         pcSquare = new Square();
         mTheData >> *pcSquare;
         rcCollection.addShape(pcSquare);
         break;
```