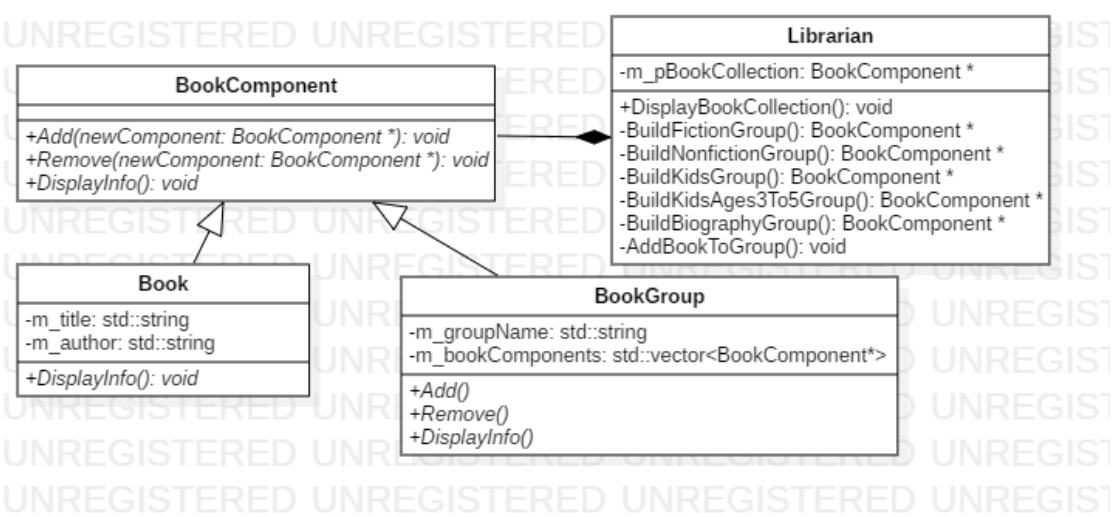
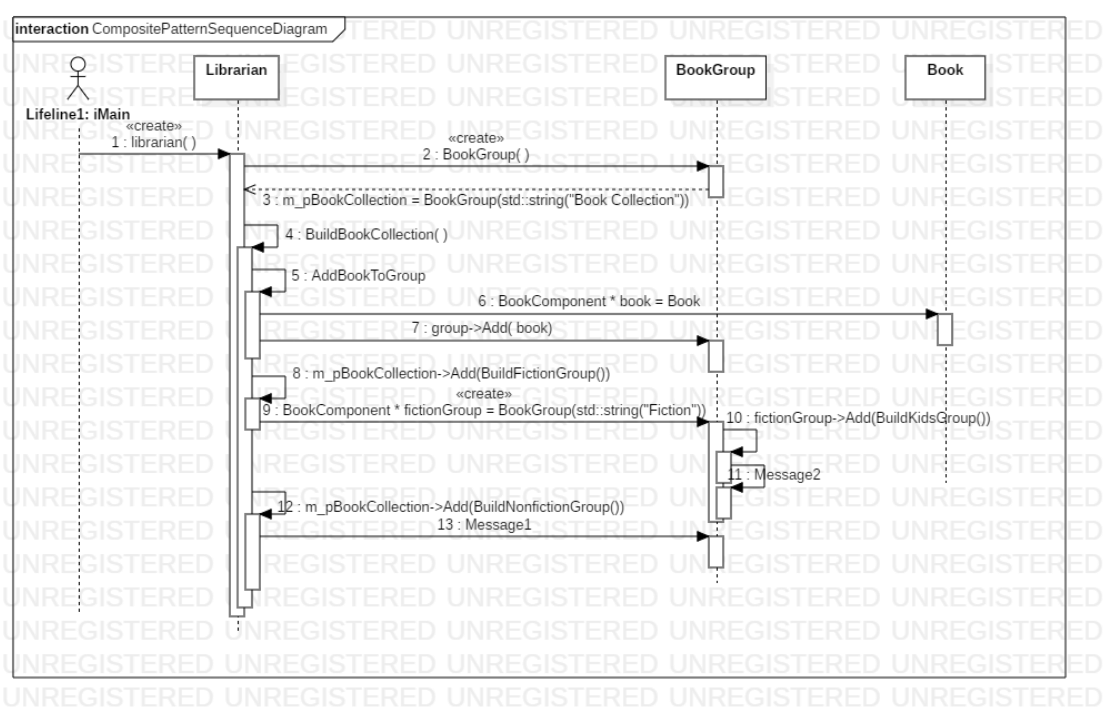


模式定义

模式结构



时序图



代码

```
Librarian librarian;

librarian.DisplayBookCollection();

system("pause");
return 0;

Librarian::Librarian() : m_pBookCollection(new BookGroup(std::string("Book Collection")))
{
    BuildBookCollection();
}

Librarian::~Librarian()
{
    delete m_pBookCollection;
}

void Librarian::BuildBookCollection()
{
    AddBookToGroup(m_pBookCollection,
        std::string("Merriam-Webster's Collegiate Dictionary"),
        std::string("Merriam-Webster"));

    m_pBookCollection->Add(BuildFictionGroup());
    m_pBookCollection->Add(BuildNonfictionGroup());
}

BookComponent * Librarian::BuildFictionGroup()
{
    BookComponent * fictionGroup = new BookGroup(std::string("Fiction"));

    fictionGroup->Add(BuildKidsGroup());

    return fictionGroup;
}

BookComponent * Librarian::BuildNonfictionGroup()
{
    BookComponent * nonfictionGroup = new BookGroup(std::string("Nonfiction"));

    nonfictionGroup->Add(BuildBiographyGroup());

    return nonfictionGroup;
}
```

```

BookComponent * Librarian::BuildKidsGroup()
{
    BookComponent * kidsGroup =
        new BookGroup(std::string("Kids"));

    AddBookToGroup(kidsGroup,
        std::string("Green Eggs and Ham"),
        std::string("Dr. Seuss"));

    kidsGroup->Add(BuildKidsAges3To5Group());

    return kidsGroup;
}

BookComponent * Librarian::BuildKidsAges3To5Group()
{
    BookComponent * kidsAges3To5Group =
        new BookGroup(std::string("Kids (Ages 3-5)"));

    AddBookToGroup(kidsAges3To5Group,
        std::string("Goodnight Moon"),
        std::string("Margaret Wise Brown"));

    return kidsAges3To5Group;
}

BookComponent * Librarian::BuildBiographyGroup()
{
    BookComponent * biographyGroup = new BookGroup(std::string("Biography"));

    AddBookToGroup(biographyGroup,
        std::string("Steve Jobs"),
        std::string("Walter Isaacson"));

    return biographyGroup;
}

void Librarian::AddBookToGroup(BookComponent * group,
    std::string bookTitle, std::string author)
{
    BookComponent * book = new Book(bookTitle, author);
    group->Add(book);
}

void Librarian::DisplayBookCollection()
{
    m_pBookCollection->DisplayInfo();
}

```

测试结果

```
D:\Design Pattern1\DesignPatterDemo\StructuralPattern\CompositePattern\Debug\Comp...
Group : Book Collection
  Book : Merriam-Webster's Collegiate Dictionary by Merriam-Webster
  Group : Fiction
    Group : Kids
      Book : Green Eggs and Ham by Dr. Suess
      Group : Kids (Ages 3-5)
        Book : Goodnight Moon by Margaret Wise Brown
    Group : Nonfiction
      Group : Biography
        Book : Steve Jobs by Walter Isaacson
请按任意键继续. . .
```