

This is the bad and unsafe way to do it...

```
import java.util.*;

public class Shelf
{
    private LinkedList bookshelf;

    public Shelf()
    {
        bookshelf = new LinkedList();
    }

    public void add(Book b)
    {
        bookshelf.add(b);
    }

    public void list()
    {
        System.out.println("Books in this shelf:");

        Iterator it = bookshelf.iterator();
        while(it.hasNext())
        {
            Book b = (Book)it.next();
            System.out.println("    " + (int)b.year + " : " +
                               b.title);
        }
    }

    public static void main(String[] args)
    {
        Shelf books = new Shelf();

        books.add(new Book("Java in a nutshell","David Flanagan",
                           (char)96));
        books.add(new Book("The TeXbook","Donald Knuth", (char)86));
        books.add(new Book("UNIX in a nutshell","Arnold Robbins",
                           (char)89));

        books.list();
    }
}
```

Bad and unsafe cont.

```
public class Book
{
    public String title;
    public String author;
    public char year;

    public Book(String t, String a, char y)
    {
        title = t;
        author = a;
        year = y;
    }
}
```

hamberg> **javac** Shelf.java

hamberg> **java** Shelf

Books in this shelf:

96 : Java in a nutshell

86 : The TeXbook

89 : UNIX in a nutshell

The safe and sound way to do it.

```
import java.util.*;

public class Shelf
{
    private LinkedList bookshelf;

    public Shelf()
    {
        bookshelf = new LinkedList();
    }

    public void add(Book b)
    {
        bookshelf.add(b);
    }

    public void list()
    {
        System.out.println("Books in this shelf:");

        Iterator it = bookshelf.iterator();
        while(it.hasNext())
        {
            Book b = (Book)it.next();
            System.out.println("    " + b.getYear() + " : " +
                               b.getTitle());
        }
    }

    public static void main(String[] args)
    {
        Shelf books = new Shelf();

        books.add(new Book("Java in a nutshell",
                           "David Flanagan",1996));
        books.add(new Book("The TeXbook",
                           "Donald Knuth",1986));
        books.add(new Book("UNIX in a nutshell",
                           "Arnold Robbins",1989));

        books.list();
    }
}
```

```
public class Book
{
    private String title;
    private String author;
    private int year;

    public Book(String t, String a, int y)
    {
        title = t;
        author = a;
        year = y;
    }

    public String getTitle()
    {
        return title;
    }

    public String getAuthor()
    {
        return author;
    }

    public int getYear()
    {
        return year;
    }

    public void setTitle(String t)
    {
        title = t;
    }

    public void setAuthor(String a)
    {
        author = a;
    }

    public void setYear(int y)
    {
        year = y;
    }
}
```