# Java程序设计实验报告

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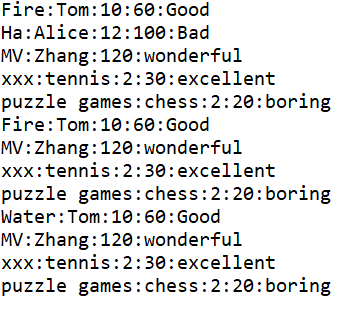
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一、实验内容

1. **基于类继承的思想，在编写一个媒体库程序，实现对CD、DVD、VideoGame、BoardGame四种媒体类型对象的进行统一管理，支持增、删、改、打印操作。**

二、实验运行结果



三、程序源代码

**package** database;

**import** java.util.ArrayList;

**public** **class** DataBase {

**private** ArrayList<Item> listItem = **new** ArrayList<Item>();

**public** **void** add(Item item) {//增

listItem.add(item);

}

**public** **void** remove(Item item) {//删

listItem.remove(item);

}

**public** **void** set(Item item1,Item item2) {//改

listItem.set(listItem.indexOf(item1), item2);

}

**public** **void** print() {//打印

**for** (Item item : listItem) {

item.print();

}

}

**public** **static** **void** main(String[] args) {

DataBase db = **new** DataBase();//一系列初始化

CD cd1 = **new** CD("Fire", "Tom", 10, 60, "Good");

CD cd2 = **new** CD("Ha", "Alice", 12, 100, "Bad");

db.add(cd1);

db.add(cd2);

db.add(**new** DVD("MV", "Zhang", 120, "wonderful"));

db.add(**new** VideoGame("tennis",2,30,"excellent","xxx"));

db.add(**new** BoardGame("chess",2,20,"boring","puzzle games"));

db.print();//打印增后的结果

db.remove(cd2);

db.print();//打印删后的结果

CD cd3 = **new** CD("Water", "Tom", 10, 60, "Good");

db.set(cd1,cd3);

db.print();//打印改后的结果

}

}

**package** database;

**public** **class** Item {//CD、DVD、Game的父类

**private** String title;

**private** **int** playingTime;

**private** String comment;

**private** **boolean** gotIt = **false**;

**public** Item(String title, **int** playingTime, String comment) {//对名字、播放时间、评论初始化

**this**.title = title;

**this**.playingTime = playingTime;

**this**.comment = comment;

}

**public** **void** printtitle() {//打印名字

System.***out***.print(title);

}

**public** **void** print() {//打印播放时间与评论

System.***out***.println(":"+playingTime+":"+comment);

}

}

**package** database;

**public** **class** CD **extends** Item{//Item的子类

**private** String artist;

**private** **int** numberOfTracks;

**public** CD(String title, String artist, **int** numberOfTracks, **int** playingTime, String comment) {

**super**(title, playingTime, comment);//由父类进行名字、播放时间、评论的初始化

**this**.artist = artist;

**this**.numberOfTracks = numberOfTracks;

}

**public** **void** print(){

**super**.printtitle();

System.***out***.print(":"+artist+":"+numberOfTracks);

**super**.print();

}

}

**package** database;

**public** **class** DVD **extends** Item{//Item的子类

**private** String director;

**public** DVD(String title, String director, **int** playingTime, String comment) {

**super**(title,playingTime,comment);//由父类进行名字、播放时间、评论的初始化

**this**.director = director;

}

**public** **void** print(){

**super**.printtitle();

System.***out***.print(":"+director);

**super**.print();

}

}

**package** database;

**public** **class** Game **extends** Item{//Item的子类

**private** **int** numberOfPlayers;

**public** Game(String title,**int** numberOfPlayers, **int** playingTime, String comment) {

**super**(title, playingTime, comment);//由父类进行名字、播放时间、评论的初始化

**this**.numberOfPlayers = numberOfPlayers;

}

**public** **void** print(){

**super**.printtitle();

System.***out***.print(":"+numberOfPlayers);

**super**.print();

}

}

**package** database;

**public** **class** VideoGame **extends** Game{//Game的子类

**private** String platform;

**public** VideoGame(String title,**int** numberOfPlayers, **int** playingTime, String comment,String platform) {

**super**(title, numberOfPlayers, playingTime, comment);//由父类进行名字、玩家数、播放时间、评论的初始化

**this**.platform = platform;

}

**public** **void** print(){

System.***out***.print(platform+":");

**super**.print();

}

}

**package** database;

**public** **class** BoardGame **extends** Game{//Game的子类

**private** String theme;

**public** BoardGame(String title,**int** numberOfPlayers, **int** playingTime, String comment,String theme) {

**super**(title, numberOfPlayers, playingTime, comment);//由父类进行名字、玩家数、播放时间、评论的初始化

**this**.theme = theme;

}

**public** **void** print(){

System.***out***.print(theme+":");

**super**.print();

}

}