BÁO CÁO THỰC HÀNH LAB 02
LẬP TRÌNH HƯỚNG ĐỐI TƯỢNG

Mục lục

Danh sách hình ảnh

1.Đề bài

Thiết kế hệ thống mới cho dự án AIMS(hiện tại chỉ có một phương tiện : DVD)

2. Yêu cầu

- **Đối với người mua hàng**
  - Duyệt danh sách các DVD có sẵn trong cửa hàng
  - tìm kiếm DVD theo : tiêu đề , danh mục , giá cả

- xem thông tin chi tiết của 1 DVD
- thêm DVD vào giỏ
- xem giỏ hàng
- sắp xếp DVD trong giỏ hàng theo tiêu đề hoặc chi phí
- cập nhật số lượng DVD trong giỏ hàng
- đặt hàng

- **Đối với người quản lý cửa hàng**
  - Đăng nhập kiểm tra quyền
  - xem danh sách các đơn hàng đang chờ xử lí
  - xem chi tiết 1 đơn hàng và xử lý nó (đồng ý / từ chối)
  - thêm , xóa DVD

3. Use case diagram

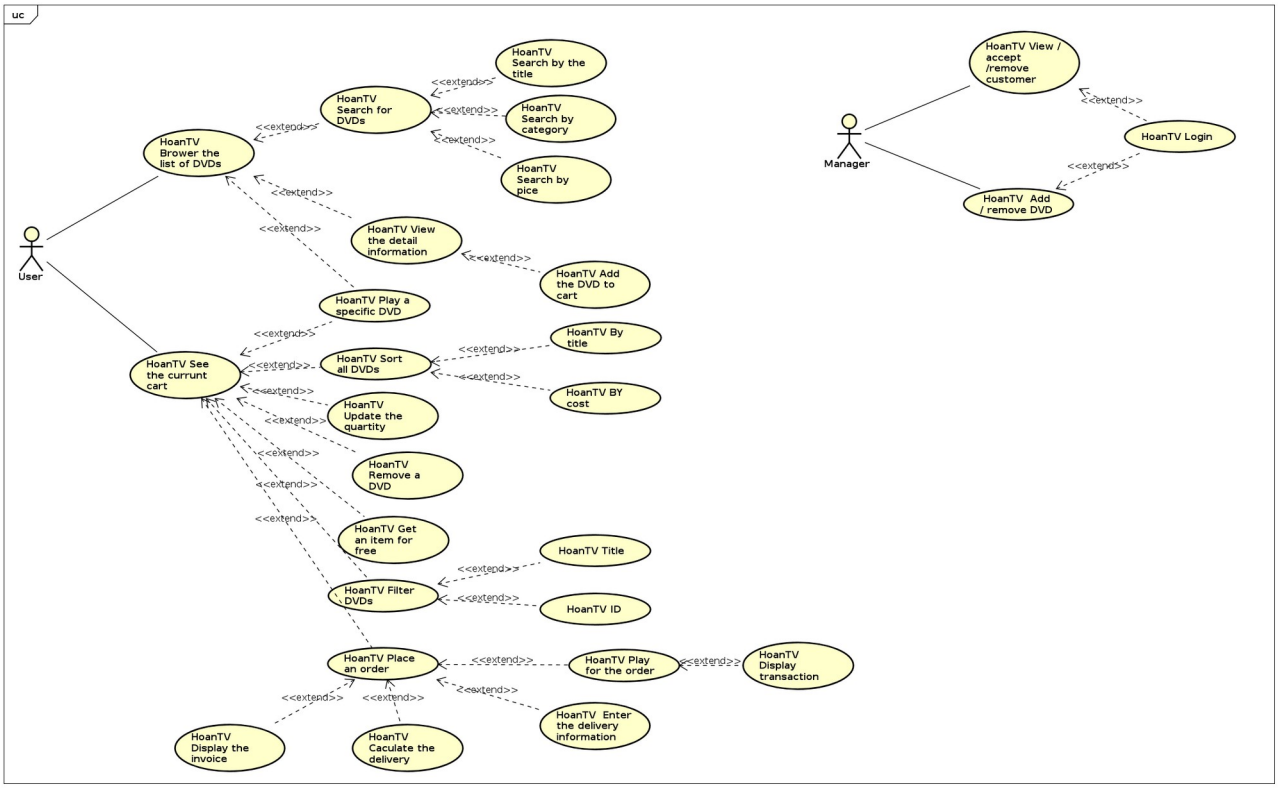

Figure 1: Biểu đồ use case

4. Class diagram

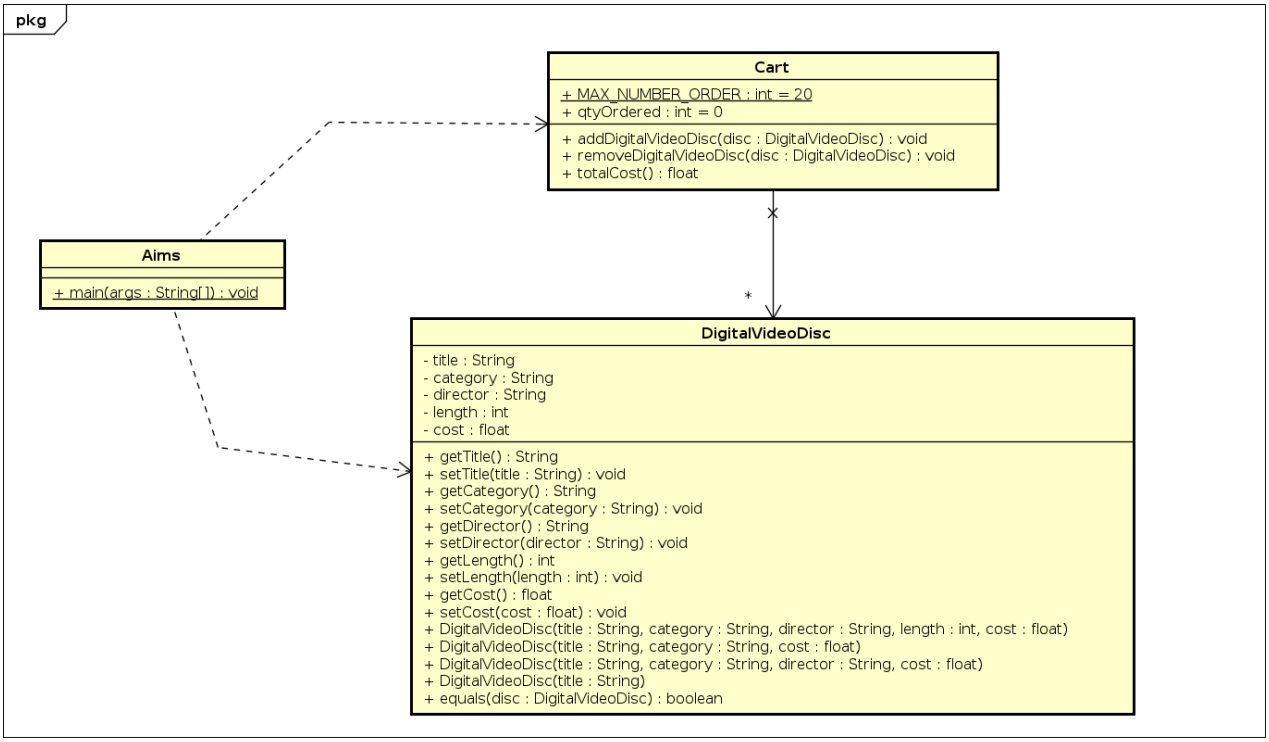

Figure 2: Class diagram

5. Mã nguồn của chương trình.

a. Create Aims class

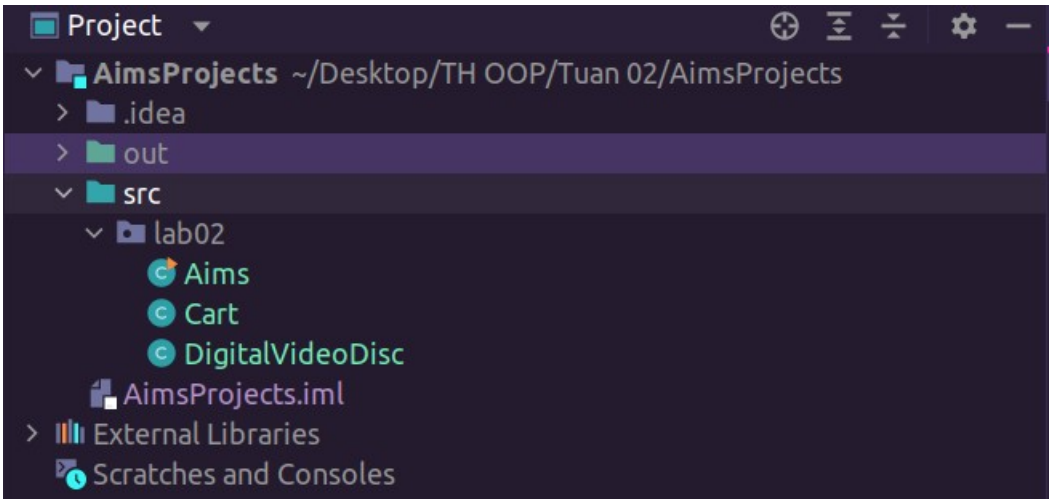

Figure 3: Create Aims class

b.Create the DigitalVideoDisc class and its attributes

Aims.java × DigitalVideoDisc.java × Cart.java ×

```
1  // Ta Van Hoan 20204973
2  package lab02;
3
4  public class DigitalVideoDisc {
       8 usages
5      private String title;
       7 usages
6      private String category;
       4 usages
7      private String director;
       3 usages
8      private int length;
       5 usages
9      private float cost;
```

Figure 4: Create the DigitalVideoDisc class and its attributes

c.Create accessors and mutators for the class DigitalVideoDisc

Aims.java × DigitalVideoDisc.java × Cart.java ×

```
10      public String getTitle() {
11          return title;
12      }
13      public void setTitle(String title) {
14          this.title = title;
15      }
16      public String getCategory() {
17          return category;
18      }
19      public void setCategory(String category) {
20          this.category = category;
21      }
22      public String getDirector() {
23          return director;
24      }
25      public void setDirector(String director) {
26          this.director = director;
27      }
28      public int getLength() {
29          return length;
30      }
31      public void setLength(int length) {
32          this.length = length;
33      }
34      public float getCost() {
35          return cost;
36      }
37      public void setCost(float cost) {
38          this.cost = cost;
39      }
```

Reading Assignment: When should accessor methods be used?
Answer: We need getters and setters or accessors and mutators to protect sensitive information in a class. The information is protected from Illegal use by using these standard methods.

d.Create Constructor method

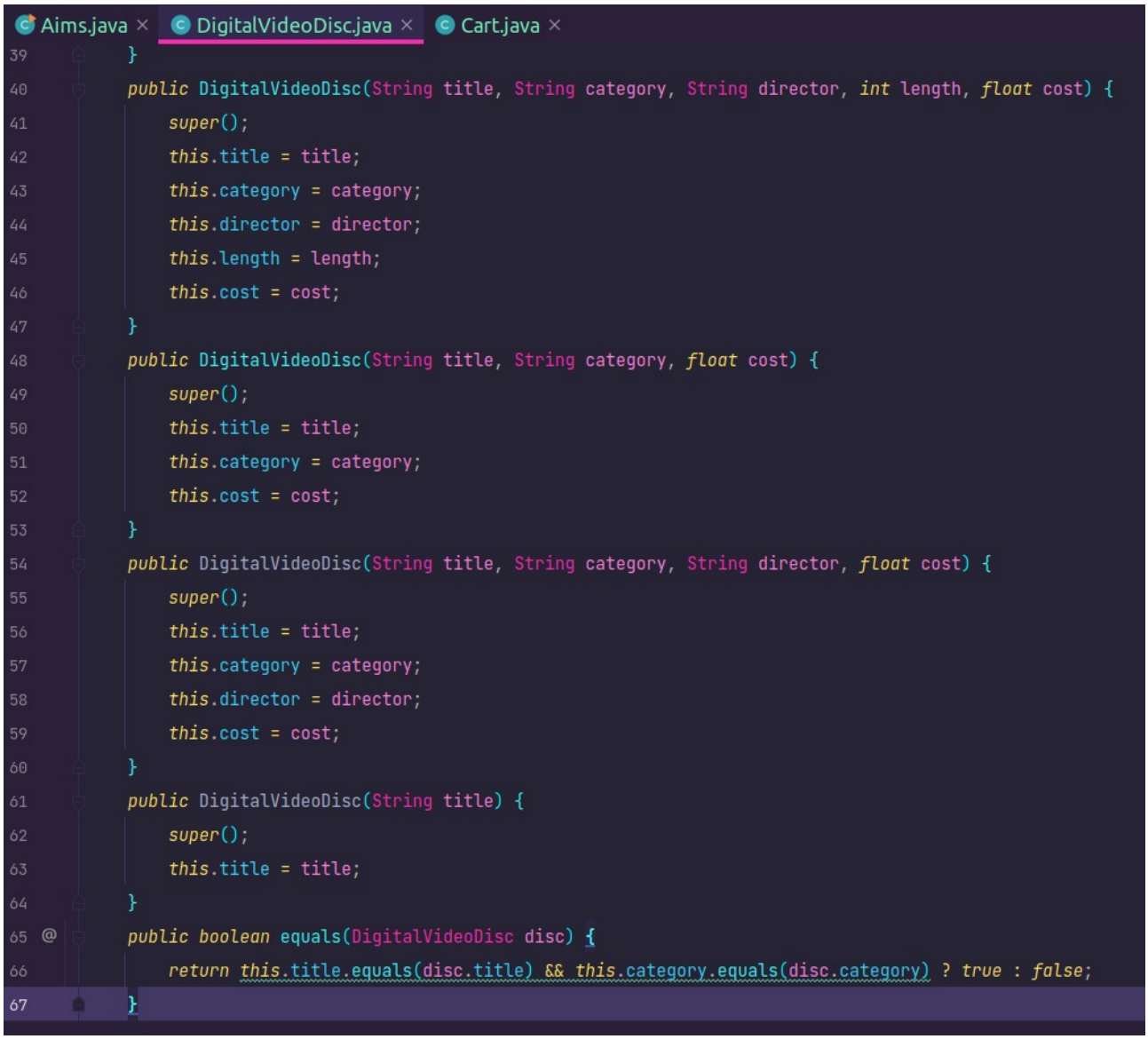

Figure 6: Create Constructor method

Question: If you create a constructor method to build a DVD by title then create a constructor method to build a DVD by category. Does JAVA allow you to do this?

Answer: Yes, we can do this. This is an overload.

e. Create the Cart class to work with DigitalVideoDisc

Aims.java × DigitalVideoDisc.java × Cart.java ×

```java
//Ta Van Hoan 20204973
package lab02;

public class Cart {
    public static final int MAX_NUMBER_ORDER = 20;
    private DigitalVideoDisc itemsOrdered [] =
            new DigitalVideoDisc[MAX_NUMBER_ORDER];

    public int qtyOrdered = 0;
    public void addDigitalVideoDisc(DigitalVideoDisc disc) {
        if(qtyOrdered ≥ MAX_NUMBER_ORDER){
            System.out.println("The cart is amost full");
        }
        else {
            itemsOrdered[qtyOrdered] = disc;
            qtyOrdered++;
            System.out.println("The disc has been added");
        }
    }

    public void removeDigitalVideoDisc(DigitalVideoDisc disc) {
        if (qtyOrdered == 0) {
            System.out.println("The disc has been removed");
        }
        else {
                int index = -1;
                for (int i = 0; i < qtyOrdered; i++){
                    if (itemsOrdered[i].equals(disc)) {
                        index = i;
```

Figure 7: Create the Cart class to work with DigitalVideoDisc

```
44
45      public float totalCost() {
46          float total = 0;
47          for (int i = 0; i < qtyOrdered; i++){
48                  total += itemsOrdered[i].getCost();
49
50          }
51          return total;
52      }
53  }
```

f. Create Carts of DigitalVideoDiscs

```
30                      }
31                  }
32                  if(index =/= -1) {
33                      for(int i = 0; i< qtyOrdered; i++){
34                          itemsOrdered[i] = itemsOrdered[i+1];
35                      }
36                      System.out.println("The disc has been removed");
37                      qtyOrdered--;
38                  }
39                  else {
40                      System.out.println("can't find the disc");
41                  }
42          }
43      }
44
```

Figure 8: Create Carts of DigitalVideoDiscs

Aims.java × DigitalVideoDisc.java × Cart.java ×

```java
// Ta Van Hoan 20204973
package lab02;

public class Aims {

    public static void main(String[] args) {

        //Create a new cart
        Cart anOder = new Cart();

        //Create new dvd object and add them to the cart
        DigitalVideoDisc dvd1 = new DigitalVideoDisc( title: "The Lion King",  category: "Animation",  director: "Roger Allers",  length: 87,  cost: 19.95f);
        anOder.addDigitalVideoDisc(dvd1);

        DigitalVideoDisc dvd2 = new DigitalVideoDisc( title: "Star Wars" ,  category: "Science Fiction",  director: "George Lucas",  length: 87,  cost: 24.95f);
        anOder.addDigitalVideoDisc(dvd2);

        DigitalVideoDisc dvd3 = new DigitalVideoDisc( title: "Aladin",  category: "Animation",  cost: 18.99f);
        anOder.addDigitalVideoDisc(dvd3);

        System.out.println("Total Cost is: ");
        System.out.println(anOder.totalCost());

    }
}
```

Figure 9: Create Carts of DigitalVideoDiscs

Result :

Aims ×

```
/home/hoantv197/.jdks/openjdk-21/bin/java -javaagent:/snap/intellij-idea-educational/
The disc has been added
The disc has been added
The disc has been added
Total Cost is:
63.89

Process finished with exit code 0
```

Figure 10: Kết quả

g.Removing items from the cart

```java
// Ta Van Hoan 20204973
package lab02;

public class Aims {

    public static void main(String[] args) {

        //Create a new cart
        Cart anOder = new Cart();

        //Create new dvd object and add them to the cart
        DigitalVideoDisc dvd1 = new DigitalVideoDisc( title: "The Lion King",  category: "Animation",  director: "Roger Allers",  length: 87,  cost: 19.95f);
        anOder.addDigitalVideoDisc(dvd1);

        DigitalVideoDisc dvd2 = new DigitalVideoDisc( title: "Star Wars" ,  category: "Science Fiction",  director: "George Lucas",  length: 87,  cost: 24.95f);
        anOder.addDigitalVideoDisc(dvd2);

        DigitalVideoDisc dvd3 = new DigitalVideoDisc( title: "Aladin",  category: "Animation",  cost: 18.99f);
        anOder.addDigitalVideoDisc(dvd3);

        System.out.println("Total Cost is: ");
        System.out.println(anOder.totalCost());
        anOder.removeDigitalVideoDisc(dvd3);
        System.out.println("Total Cost is: ");
        System.out.println(anOder.totalCost());
    }
}
```

Figure 11: Removing items from the cart

Result :

```
Aims
/home/hoantv197/.jdks/openjdk-21/bin/java -javaagent:/snap/intellij-idea-educational/51/lib/idea_
The disc has been added
The disc has been added
The disc has been added
Total Cost is:
63.89
The disc has been removed
Total Cost is:
44.9

Process finished with exit code 0
```

Figure 12: Kết quả sau khi remove

6. Demo chương trình

Em đã quay video chạy chương trình và có thể mở bằng link dưới ạ
https://drive.google.com/file/d/1t2O5nPMiKlz9xINyrlEoCFPwBpvLJPnC/view?usp=sharing