

## OOP – LAB 03

Nguyễn Huy Hoàng MSV : 20226107

### 2.1) phương thức thêm dvd khi truyền vào mảng

```
public void addDigitalVideoDisc(DigitalVideoDisc[] dvdList) {
    for(DigitalVideoDisc dvd : dvdList) {
        if(qtyOrdered < MAX_NUMBERS_ORDERED) {
            itemOrdered[qtyOrdered] = dvd;
            qtyOrdered++;
            System.out.println("The DVD has been added.");
        }
        else {
            System.out.println("The cart is almost full!");
        }
    }
    System.out.println();
}
```

### 2.2 ) phương thức thêm dvd khi đầu vào là 2 đĩa

```
public void addDigitalVideoDisc(DigitalVideoDisc dvd1, DigitalVideoDisc dvd2) {
    if(qtyOrdered < MAX_NUMBERS_ORDERED - 2) {
        itemOrdered[qtyOrdered] = dvd1;
        qtyOrdered++;
        itemOrdered[qtyOrdered] = dvd2;
        qtyOrdered++;
        System.out.println("The two DVDs have been added!");
    }
    else if(qtyOrdered == MAX_NUMBERS_ORDERED - 2) {
        itemOrdered[qtyOrdered] = dvd1;
        qtyOrdered++;
        System.out.println("The first DVD has been added.");
        System.out.println("The cart is almost full! Cannot add the
second DVD to cart.");
        System.out.println();
    }
    else {
        System.out.println("The cart is almost full!");
        System.out.println();
    }
}
```

### 3 ) Swap

```

public static void newSwap(DigitalVideoDisc dvd1, DigitalVideoDisc dvd2) {
    String dvd1OldTitle = dvd1.getTitle();
    String dvd1OldCategory = dvd1.getCategory();
    String dvd1OldDirector = dvd1.getDirector();
    int dvd1OldLength = dvd1.getLength();
    double dvd1OldCost = dvd1.getCost();
    int dvd1OldId = dvd1.getId();

    dvd1.setTitle(dvd2.getTitle());
    dvd1.setCategory(dvd2.getCategory());
    dvd1.setDirector(dvd2.getDirector());
    dvd1.setLength(dvd2.getLength());
    dvd1.setCost(dvd2.getCost());
    dvd1.setId(dvd2.getId());

    dvd2.setTitle(dvd1OldTitle);
    dvd2.setCategory(dvd1OldCategory);
    dvd2.setDirector(dvd1OldDirector);
    dvd2.setLength(dvd1OldLength);
    dvd2.setCost(dvd1OldCost);
    dvd2.setId(dvd1OldId);
}

```

## Results

```

title 1 : A
title 2 : B
jungle dvd title: B

```

5)

```

private int id;
private static int nbDigitalVideoDiscs = 0;
public DigitalVideoDisc(String title, String category, String director,
                        int length, double cost) {
    this.title = title;
    this.category = category;
    this.director = director;
    this.length = length;
    this.cost = cost;
    this.id = ++nbDigitalVideoDiscs;
}

```

6)

To string :

```
public String toString() {  
    return "DVD" + this.id + " - " + "Title: " + this.title + " - Category: " +  
        this.category + " - Director: " + this.director + " - Length: " +  
        this.length + " - Price: " + this.cost + "$";  
}
```

Print

```
//Method to print the cart  
public void print() {  
    System.out.println("*****CART*****");  
    System.out.println("Ordered Items");  
    for(int i = 0; i < qtyOrdered; i++) {  
        System.out.println((i + 1) + ". " + itemOrdered[i].toString());  
    }  
    System.out.println("Total cost: " + totalCost() + "$");  
    System.out.println("*****");  
}
```

isMatch

```
public boolean isMatch(String keywords) {  
    String[] splitKeywords = keywords.toLowerCase().split("\\s+");  
    String toLowerTitle = this.title.toLowerCase();  
  
    for(String s : splitKeywords) {  
        if(toLowerTitle.contains(s)) {  
            return true;  
        }  
    }  
    return false;  
}
```

Search by keyword

```
//Method to search DVD by title
    public void search(String keywords) {
        int matchItem = 0;
        for(int i = 0; i < qtyOrdered; i++) {
            if(itemOrdered[i].isMatch(keywords)) {
                matchItem++;
                System.out.println(itemOrdered[i].toString());
            }
        }
        if(matchItem == 0) {
            System.out.println("No item found!");
        }
    }
}
```

## Search by ID

```
public void search(int ID) {
    int matchItem = 0;
    for(int i = 0; i < qtyOrdered; i++) {
        if(itemOrdered[i].getId() == ID) {
            matchItem++;
            System.out.println(itemOrdered[i].toString());
        }
    }
    if(matchItem == 0) {
        System.out.println("No item found!");
    }
}
}
```

## Cart Test

```

public class CartTest {
    public static void main(String[] args) {
        //Create a new cart
        Cart cart = new Cart();

        //Create new dvd objects and add them to the cart
        DigitalVideoDisc dvd1 = new DigitalVideoDisc("A", "Animation", "Roger Allers", 87, 19);
        cart.addDigitalVideoDisc(dvd1);

        DigitalVideoDisc dvd2 = new DigitalVideoDisc("B", "Science Fiction", "Geogre Lucas", 87, 20);
        DigitalVideoDisc dvd3 = new DigitalVideoDisc("C", "Animation", 18);
        cart.addDigitalVideoDisc(dvd2, dvd3);

        DigitalVideoDisc dvd4 = new DigitalVideoDisc("D", "Animation", 24);
        DigitalVideoDisc dvd5 = new DigitalVideoDisc("E", "Animation", 30);
        DigitalVideoDisc[] list = {dvd4, dvd5};
        cart.addDigitalVideoDisc(list);

        //Test the print method
        cart.print();

        //Test the search method (by title)
        cart.search("A"); //Two items found
        cart.search("F"); //No item found

        //Test the search method (by ID)
        cart.search(1); //One item found
        cart.search(9); //No item found
    }
}

```

Total cost: 111.0\$

\*\*\*\*\*

DVD1 - Title: A - Category: Animation - Director: Roger Allers - Length: 87 - Price: 19.0\$

No item found!

DVD1 - Title: A - Category: Animation - Director: Roger Allers - Length: 87 - Price: 19.0\$

No item found!