Báo cáo Lab 06

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Bài 2: Creating the Book class

```java
package media;

import java.util.ArrayList;
import java.util.List;

public class Book {
    private String title;
    private String category;
    private float cost;
    private List<String> authors = new ArrayList<String>();

    public String getTitle() {
        return title;
    }

    public void setTitle(String title) {
        this.title = title;
    }

    public String getCategory() {
        return category;
    }

    public void setCategory(String category) {
        this.category = category;
    }

    public float getCost() {
        return cost;
    }

    public void setCost(float cost) {
        this.cost = cost;
    }

    public List<String> getAuthors() {
        return authors;
    }

    public void setAuthors(List<String> authors) {
        this.authors = authors;
    }
```

```
    public void addAuthor(String authorName) {
        if (authors.contains(authorName) == false) {
            authors.add(authorName);
        } else
            return;
    }

    public void removeAuthor(String authorName) {
        if (authors.contains(authorName) == true) {
            authors.remove(authorName);
        } else
            return;
    }

}
```

Bài 3: Creating the Media class

Media.java

```
package media;

public class Media {
    private String title;
    private String category;
    private float cost;

    public String getTitle() {
        return title;
    }

    public void setTitle(String title) {
        this.title = title;
    }

    public String getCategory() {
        return category;
    }

    public void setCategory(String category) {
        this.category = category;
    }

    public float getCost() {
        return cost;
```

```
    }

    public void setCost(float cost) {
        this.cost = cost;
    }
}
```

Book.java

```
package media;

import java.util.ArrayList;
import java.util.List;

public class Book extends Media {
    private List<String> authors = new ArrayList<String>();

    public List<String> getAuthors() {
        return authors;
    }

    public void setAuthors(List<String> authors) {
        this.authors = authors;
    }

    public void addAuthor(String authorName) {
        if (authors.contains(authorName) == false) {
            authors.add(authorName);
        } else
            return;
    }

    public void removeAuthor(String authorName) {
        if (authors.contains(authorName) == true) {
            authors.remove(authorName);
        } else
            return;
    }

    public Book(String title) {
        super(title);
    }

    public Book(String title, String category) {
        super(title, category);
    }

    public Book(String title, String category, List<String> authors) {
        super(title, category);
        this.authors = authors;
    }
}
```

DigitalVideoDisc.java

```java
package media;

public class DigitalVideoDisc extends Media {
    private int length;
    private String director;

    public int getLength() {
        return length;
    }

    public void setLength(int length) {
        this.length = length;
    }

    public String getDirector() {
        return director;
    }

    public void setDirector(String director) {
        this.director = director;
    }

    public DigitalVideoDisc(String title, String category, String director, int
length, float cost) {
        super(title, category, cost);
        this.director = director;
        this.length = length;
    }

    public DigitalVideoDisc(String title) {
        super(title);
    }

    public DigitalVideoDisc(String title, String category) {
        super(title, category);
    }

    public DigitalVideoDisc(String title, String category, String director) {
        super(title, category);
        this.director = director;
    }
}
```

Bài 4: Update the Order class to work with Media

Order.java

```java
package order;

import java.util.ArrayList;

import media.Media;
import utils.MyDate;

public class Order {
    public static final int MAX_LIMITTED_ORDERED = 5;
    private static int nbOrders = 0;
    public static final int MAX_NUMBERS_ORDERED = 10;
    private ArrayList<Media> itemOdered = new ArrayList<Media>();
    private int qtyOrdered = 0;
    private MyDate dateOrdered = new MyDate();

    public ArrayList<Media> getItemOdered() {
        return itemOdered;
    }

    public void setItemOdered(ArrayList<Media> itemOdered) {
        this.itemOdered = itemOdered;
    }

    public int getqtyOrdered() {
        return this.qtyOrdered;
    }

    public void setDateOrder(MyDate dateOrder) {
        this.dateOrdered = dateOrder;

    }

    public Order() {
        if (nbOrders < MAX_LIMITTED_ORDERED) {
            nbOrders++;
        } else
            return;
    }

    public int getNbOrder() {
        return nbOrders;
    }

    public void addMedia(Media media) {
        if (itemOdered.size() < MAX_LIMITTED_ORDERED) {
            qtyOrdered++;
            itemOdered.add(media);
```

```
            System.out.println("add media successfully");
        } else
            System.out.println("The list order is full");
    }

    public void removeMedia(Media media) {
        boolean check = false;
        itemOdered.remove(media);
        for (Media md : itemOdered) {
            if (md.getId() == media.getId()) {
                itemOdered.remove(media);
                qtyOrdered--;
                System.out.println("remove successfully");
                check = true;
            }
        }
        if (check == false)
            System.out.println("can't find media");
    }

    public float totalCost() {
        float totalCost = 0;
        for (int i = 0; i < qtyOrdered; i++) {
            totalCost += itemOdered.get(i).getCost();
        }
        return totalCost;
    }

    public void printFull() {
        System.out.println("************************Order**********************
*");
        System.out.println("Date: " + this.dateOrdered.getDay() + "/" +
this.dateOrdered.getMonth() + "/"
                + this.dateOrdered.getYear());
        System.out.println("Ordered Item: ");
        for (Media media : itemOdered) {
            media.printInfo();
        }
        System.out.println("Total cost: " + this.totalCost());
        System.out.println("**********************************************
");
    }

    public Media getALuckyitem() {
        int min = 0;
        int max = qtyOrdered - 1;
        int range = max - min + 1;
        int lucky = (int) (Math.random() * range) + min;
        System.out.println("*** Lucky number is: " + lucky + " ***");
        return itemOdered.get(lucky);
    }
}
```

Bài 5: Create a complete console application in the Aims class 3

Aims.java

```
import java.util.ArrayList;
import java.util.Collections;
import java.util.Scanner;

import media.Book;
import media.DigitalVideoDisc;
import media.Media;
import order.Order;
import utils.MyDate;

public class Aims {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        Scanner scan1 = new Scanner(System.in);
        int choose;
        Boolean check = true;
        Order order = null;
        ArrayList<Media> mediaList = new ArrayList<Media>();
        MyDate dateOrdered = new MyDate(26, 7, 2001);

        DigitalVideoDisc dvd1 = new DigitalVideoDisc(1, "The Lion King",
"animation", 87, "Roger Allers", 19.95f);
        DigitalVideoDisc dvd2 = new DigitalVideoDisc(2, "Justice League",
"superheroes", 240, "Zach Synder", 22.95f);
        DigitalVideoDisc dvd3 = new DigitalVideoDisc(3, "Up", "animation", 96,
"Pete Docter", 14.5f);
        DigitalVideoDisc dvd4 = new DigitalVideoDisc(4, "The Incredibles",
"animation", 115, "Brad Bird", 19.95f);

        Book book1 = new Book(5, "It", "horror", 12f, "Stephen King");
        Book book2 = new Book(6, "The Shining", "horror", 9f, "Stephen King");
        Book book3 = new Book(7, "Dragon", "horror", 15.5f, "Lovecraft");
        Book book4 = new Book(8, "The Pillow Book", "biography", 12f, "Sei
Shonagon");

        Collections.addAll(mediaList, dvd1, dvd2, dvd3, dvd4, book1, book2,
book3, book4);

        while (check) {
            showMenu();
            choose = scan.nextInt();
            switch (choose) {
                case 1: {
                    order = new Order();
```

```
                order.setDateOrder(dateOrdered);
                System.out.println("create order successfully");
                break;
            }
            case 2: {
                System.out.println("id: ");
                int id = scan.nextInt();
                boolean tmp = false;
                for (Media media : mediaList) {
                    if (media.getId() == id) {
                        Add(order, media);
                        tmp = true;
                    }
                }
                if (tmp == false)
                    System.out.println("This id is not valid");
                break;
            }
            case 3: {
                System.out.println("id to remove:");
                int idRm = scan.nextInt();
                Delete(order, idRm);
                break;
            }
            case 4: {
                order.printFull();
                break;
            }
            case 0: {
                check = false;
                break;
            }
        }
    }
    scan.close();
    scan1.close();
}

public static void showMenu() {
    System.out.println("\nOrder Management Application: ");
    System.out.println("-----------------------------");
    System.out.println("1. Create new order");
    System.out.println("2. Add item to the order");
    System.out.println("3. Delete item by id");
    System.out.println("4. Display the items list of order");
    System.out.println("0. Exit");
    System.out.println("-----------------------------");
    System.out.println("Please choose a number: 0-1-2-3-4");
}

public static void Add(Order order, Media item) {
    order.addMedia(item);
```

```
    }

    public static void Delete(Order order, int id) {
        order.removeMedia(id);
    }
}
```

Order.java

```
package order;

import java.util.ArrayList;

import media.Media;
import utils.MyDate;

public class Order {
    public static final int MAX_LIMITTED_ORDERED = 5;
    private static int nbOrders = 0;
    public static final int MAX_NUMBERS_ORDERED = 10;
    private ArrayList<Media> itemOdered = new ArrayList<Media>();
    private int qtyOrdered = 0;
    private MyDate dateOrdered = new MyDate();

    public ArrayList<Media> getItemOdered() {
        return itemOdered;
    }

    public void setItemOdered(ArrayList<Media> itemOdered) {
        this.itemOdered = itemOdered;
    }

    public int getqtyOrdered() {
        return this.qtyOrdered;
    }

    public void setDateOrder(MyDate dateOrder) {
        this.dateOrdered = dateOrder;

    }

    public Order() {
        if (nbOrders < MAX_LIMITTED_ORDERED) {
            nbOrders++;
        } else
            return;
    }

    public int getNbOrder() {
        return nbOrders;
```

```
    }

    public void addMedia(Media media) {
        if (itemOdered.size() < MAX_LIMITTED_ORDERED) {
            qtyOrdered++;
            itemOdered.add(media);
            System.out.println("add media successfully");
        } else {
            System.out.println("The list order is full");
        }
    }

    public void removeMedia(int id) {
        boolean check = false;
        check = itemOdered.removeIf((media) -> {
            qtyOrdered--;
            return media.getId() == id;
        });
        if (check == false)
            System.out.println("can't find media");
    }

    public float totalCost() {
        float totalCost = 0;
        for (Media media : itemOdered) {
            totalCost += media.getCost();
        }
        return totalCost;
    }

    public void printFull() {
        System.out.println("**************************Order*********************
*");
        System.out.println("Date: " + this.dateOrdered.getDay() + "/" +
this.dateOrdered.getMonth() + "/"
                + this.dateOrdered.getYear());
        System.out.println("Ordered Item: ");
        for (Media media : itemOdered) {
            media.printInfo();
        }
        System.out.println("Total cost: " + this.totalCost());
        System.out.println("**********************************************
");
    }

    public Media getALuckyitem() {
        int min = 0;
        int max = qtyOrdered - 1;
        int range = max - min + 1;
        int lucky = (int) (Math.random() * range) + min;
        System.out.println("*** Lucky number is: " + lucky + " ***");
        return itemOdered.get(lucky);
```

```
    }
}
```

Media.java

```
package media;

public class Media {
    private int id;
    private String title;
    private String category;
    private float cost;

    public String getTitle() {
        return title;
    }

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public void setTitle(String title) {
        this.title = title;
    }

    public String getCategory() {
        return category;
    }

    public void setCategory(String category) {
        this.category = category;
    }

    public float getCost() {
        return cost;
    }

    public void setCost(float cost) {
        this.cost = cost;
    }

    public Media(String title) {
        this.title = title;
    }

    public Media(String title, String category) {
```

```
        this.title = title;
        this.category = category;
    }

    public Media(String title, String category, float cost) {
        this.title = title;
        this.category = category;
        this.cost = cost;
    }

    public Media(int id, String title, String category, float cost) {
        this.id = id;
        this.title = title;
        this.category = category;
        this.cost = cost;
    }

    public void printInfo() {

    }
}
```

Book.java

```
package media;

import java.util.ArrayList;
import java.util.List;

public class Book extends Media {
    private List<String> authors = new ArrayList<String>();

    public List<String> getAuthors() {
        return authors;
    }

    public void setAuthors(List<String> authors) {
        this.authors = authors;
    }

    public void addAuthor(String authorName) {
        if (authors.contains(authorName) == false) {
            authors.add(authorName);
        } else
            return;
    }

    public void removeAuthor(String authorName) {
        if (authors.contains(authorName) == true) {
            authors.remove(authorName);
```

```
        } else
            return;
    }

    public Book(String title) {
        super(title);
    }

    public Book(String title, String category) {
        super(title, category);
    }

    public Book(String title, String category, List<String> authors) {
        super(title, category);
        this.authors = authors;
    }

    public Book(int id, String title, String category, float cost, String
authors) {
        super(id, title, category, cost);
        addAuthor(authors);
    }

    public void printInfo() {
        System.out.println("Book: " + getId() + " - " + getTitle() + " - " +
getCategory() + " - " + getAuthors()
                + " - " + getCost());
    }
}
```

DigitalVideoDisc.java

```
package media;

public class DigitalVideoDisc extends Media {
    private int length;
    private String director;

    public int getLength() {
        return length;
    }

    public void setLength(int length) {
        this.length = length;
    }

    public String getDirector() {
        return director;
    }
```

```
    public void setDirector(String director) {
        this.director = director;
    }

    public DigitalVideoDisc(String title, String category, String director, int
length, float cost) {
        super(title, category, cost);
        this.director = director;
        this.length = length;
    }

    public DigitalVideoDisc(String title) {
        super(title);
    }

    public DigitalVideoDisc(String title, String category) {
        super(title, category);
    }

    public DigitalVideoDisc(String title, String category, String director) {
        super(title, category);
        this.director = director;
    }

    public DigitalVideoDisc(int id, String title, String category, int length,
String director, float cost) {
        super(id, title, category, cost);
        this.director = director;
        this.length = length;
    }

    public void printInfo() {
        System.out.println("DVD: " + getId() + " - " + getTitle() + " - " +
getCategory() + " - " + getDirector()
                + " - " + getLength()
                + " - " + getCost());

    }
}
```

Kết quả chạy:

Bước 1: Tạo 1 order

```
Order Management Application:
----------------------------
1. Create new order
2. Add item to the order
3. Delete item by id
4. Display the items list of order
0. Exit
----------------------------
Please choose a number: 0-1-2-3-4
1
create order successfully
```

Bước 2: Thêm item vào order (thêm theo id)

```
2
id:
1
add media successfully
```

```
2
id:
3
add media successfully
```

```
2
id:
7
add media successfully
```

Bước 3: Xem order đã thêm

```
Order Management Application:
----------------------------
1. Create new order
2. Add item to the order
3. Delete item by id
4. Display the items list of order
0. Exit
----------------------------
Please choose a number: 0-1-2-3-4
4
**************************Order**********************
Date: 26/7/2001
Ordered Item:
DVD: 1 - The Lion King - animation - Roger Allers - 87 - 19.95
DVD: 3 - Up - animation - Pete Docter - 96 - 14.5
Book: 7 - Dragon - horror - [Lovecraft] - 15.5
Total cost: 49.95
************************************************
```

Bước 4: Xóa 1 item theo id bất kỳ (id: 3)

```
Order Management Application:
----------------------------
1. Create new order
2. Add item to the order
3. Delete item by id
4. Display the items list of order
0. Exit
----------------------------
Please choose a number: 0-1-2-3-4
3
id to remove:
3

Order Management Application:
----------------------------
1. Create new order
2. Add item to the order
3. Delete item by id
4. Display the items list of order
0. Exit
----------------------------
Please choose a number: 0-1-2-3-4
4
**************************Order************************
Date: 26/7/2001
Ordered Item:
DVD: 1 - The Lion King - animation - Roger Allers - 87 - 19.95
Book: 7 - Dragon - horror - [Lovecraft] - 15.5
Total cost: 35.45
*******************************************************
```

(Xóa thành công)

Bước 5: Thoát

```
Order Management Application:
----------------------------
1. Create new order
2. Add item to the order
3. Delete item by id
4. Display the items list of order
0. Exit
----------------------------
Please choose a number: 0-1-2-3-4
0
PS C:\Users\ThinkPad\Documents\20212\THOOP\w4\AimsProject\hust\soict\hedspi\aims>
```