

CSE212
SOFTWARE DEVELOPMENT METHODOLOGIES
SPRING 2024
LABWORK 8 - SECTION 1 & 2

Below, you can find the description of your labwork for today. You can also find the expected output of this code in the Application Walkthrough section.

You are going to improve your Rental System on top of your previous week's labwork by incorporating Comparable and Comparator interfaces.

You should add a new class named `LengthComparator`. This class should be a `Comparator` class to use the `length` attribute of `Content` to sort the contents in descending order. To create a `Comparator`, `LengthComparator` has to implement the `Comparator` interface.

On the other hand, you should sort your customers in ascending order by using their `age` attribute. To do that, you must define your `Customer` object as `Comparable` by implementing the `Comparable` interface.

When the user starts the application, it should prompt the user with the following menu:

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
6. Display Customer Information
7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order
0. Exit

You need to update your 9th and 10th options in the menu. When a user selects the 9th option, the contents should be printed out in descending order by their length. For the 10th option, all customers should be displayed in ascending order by their age.

Application Walkthrough

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
6. Display Customer Information

7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order
0. Exit

1

Enter id

1000

Enter name

John

Enter surname

Blake

Enter age

34

Enter postal code

34724

Enter email

johnblake@gmail.com

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
6. Display Customer Information
7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order
0. Exit

1

Enter id

1002

Enter name

Mary

Enter surname

Jane

Enter age

20

Enter postal code

34555

Enter email

mary_jane@yahoo.com

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
6. Display Customer Information
7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order
0. Exit

1

Enter id

1001

Enter name

Robert

Enter surname

Smith

Enter age

56

Enter postal code

34242

Enter email

r_smith@yahoo.com

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
6. Display Customer Information
7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order
0. Exit

2

Enter id

10

Enter title

The Lord of the Rings: The Fellowship of the Ring

Enter artist

Elijah Wood

Enter length

178

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
6. Display Customer Information
7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order
0. Exit

4

Enter id

12

Enter title

Spenser Confidential

Enter artist

Mark Wahlberg

Enter length

111

Enter streaming service:

Netflix

1. Create a new Customer
2. Create a new DVD
3. Create a new DVD with genre
4. Create a new Digital Movie
5. Rent a DVD
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7. Display Content Information
8. Display number of customers
9. Display All Contents in order
10. Display All Customers in order

0. Exit

3

Enter genre

Thriller

Enter id

11

Enter title

Parasite

Enter artist

Song Kang-ho

Enter length

132

1. Create a new Customer
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 8. Display number of customers
 9. Display All Contents in order
 10. Display All Customers in order
 0. Exit
- 9

id:10

title:The Lord of the Rings: The Fellowship of the Ring

artist:Elijah Wood

genre:Other

length(in minutes):178

id:11

title:Parasite

artist:Song Kang-ho

genre:Thriller

length(in minutes):132

id:12

title:Spenser Confidential

artist:Mark Wahlberg

genre:Other

length(in minutes):111

1. Create a new Customer
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 5. Rent a DVD
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 7. Display Content Information
 8. Display number of customers
 9. Display All Contents in order
 10. Display All Customers in order
 0. Exit
- 10

id:1002

name:Mary

surname:Jane

age:20

postal code:34555

email:mary_jane@yahoo.com

id:1000

name:John

surname:Blake

age:34

postal code:34724

email:johnblake@gmail.com

id:1001

name:Robert

surname:Smith

age:56

postal code:34242

email:r_smith@yahoo.com

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0