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// Sort_Book.java import
java.util.*;
public class Sort_Book implements Comparator<book>{public int
    compare(book b1, book b2)
    {    return (int)(b1.price-b2.price);
    }
}
//pgm_2.java
import java.util.*;class
book{
    String title,publisher,author;
    double price;
    book(String title, String publisher, String author, double price){this.title=title;
        this.publisher=publisher;
        this.author=author; this.price=price;
    }
    void display() {
        System.out.println("Title: "+title+" Author: "+author+" Publisher:"+publisher+" Price:
"+price);
    }
}
public class pgm_2 {
    public static void main(String[] args) { Scanner sc = new
        Scanner(System.in);
        HashMap<Integer,book> hm = new HashMap<Integer,book>();ArrayList<book>
        li = new ArrayList<book>(); ArrayList<book> li_2 = new ArrayList<book>();
        ArrayList<book> li_3 = new ArrayList<book>();

        book b1 = new book("The Alchemist","Penguin","Paulo Coelo",500);book b2 = new
        book("The Winner Stands Alone","Penguin","Paulo
Coelo",550);
        book b3 = new book("2 States","Rupa Publication","Chetan Bhagat", book b4 = new
        300);
        book("The Jungle Book","Macmillan","Rudyard Kipling",book b5 = new book("Harry
        250);
        Potter","Bloomsbury","JK Rowling",750); li.add(b1);
        li.add(b2);
        li.add(b3);
        li.add(b4);
        li.add(b5);

        hm.put(101,b1);
        hm.put(102,b2);
        hm.put(103,b3);
        hm.put(104,b4);
        hm.put(105,b5);

        System.out.println("Array List: ");
        for(book b:li) {
            b.display();
        }
        System.out.println("\nHashMap: ");
        for(Map.Entry<Integer,book> i:hm.entrySet()) {
            System.out.print("Id: "+i.getKey()+"--> ");
            i.getValue().display();
        }
        Collections.sort(li,new Sort_Book());li_2.addAll(li);

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        System.out.println("\nArray List: After Sorting in Ascending order wrt to price");
        for(book b:li_2) {
            b.display();
        }
        System.out.print("\nWrite an Author's name: ");String a =
        sc.nextLine(); for(Map.Entry<Integer,book> i:hm.entrySet()) {
            if(i.getValue().author.equals(a)) {i.getValue().display();
            }
        }
        for(book b:li){
            if(b.price>400) {
                li_3.add(b);
            }
        }
        System.out.println("\nBooks with price > Rs 400/-");
        for(book b:li_3) {
            b.display();
        }
        System.out.print("\nWrite an Publisher's name: ");String p =
        sc.nextLine(); for(Map.Entry<Integer,book> i:hm.entrySet()) {
            if(i.getValue().publisher.equals(p)) {i.getValue().display();
            }
        }
        System.out.println("Write full or part of book title");String t= sc.nextLine();
        for(Map.Entry<Integer,book> i:hm.entrySet()) {
            if(i.getValue().title.contains(t)) {i.getValue().display();
            }
        }
        System.out.println("Write full or part of book title for publisher
updation");

        String tp= sc.nextLine();
        for(Map.Entry<Integer,book> i:hm.entrySet()) {
            if(i.getValue().title.contains(tp)) { System.out.println("Before
                Updation:-");i.getValue().display();
                System.out.println("After Updation:-");
                i.getValue().publisher="Private";
                i.getValue().display();
            }
        }

        System.out.println("Thank You");
    }
}

```

}

//Output

Array List:

Title: The Alchemist Author: Paulo Coelo Publisher: Penguin Price: 500.0

Title: The Winner Stands Alone Author: Paulo Coelo Publisher: Penguin Price: 550.0 Title: 2 States Author:

Chetan Bhagat Publisher: Rupa Publication Price: 300.0 Title: The Jungle Book Author: Rudyard Kipling

Publisher: Macmillan Price: 250.0 Title: Harry Potter Author: JK Rowling Publisher: Bloomsbury Price: 750.0

HashMap:

Id: 101--> Title: The Alchemist Author: Paulo Coelo Publisher: Penguin Price: 500.0 Id: 102--> Title: The Winner Stands Alone Author: Paulo Coelo Publisher: Penguin Price: 550.0

Id: 103--> Title: 2 States Author: Chetan Bhagat Publisher: Rupa Publication Price: 300.0

Id: 104--> Title: The Jungle Book Author: Rudyard Kipling Publisher: Macmillan Price: 250.0

Id: 105--> Title: Harry Potter Author: JK Rowling Publisher: Bloomsbury Price: 750.0

Array List: After Sorting in Ascending order wrt to price

Title: The Jungle Book Author: Rudyard Kipling Publisher: Macmillan Price: 250.0
Title: 2 States Author: Chetan Bhagat Publisher: Rupa Publication Price: 300.0
Title: The Alchemist Author: Paulo Coelo Publisher: Penguin Price: 500.0

Title: The Winner Stands Alone Author: Paulo Coelo Publisher: Penguin Price: 550.0
Title: Harry Potter Author: JK Rowling Publisher: Bloomsbury Price: 750.0

Write an Author's name: JK Rowling

Title: Harry Potter Author: JK Rowling Publisher: Bloomsbury Price: 750.0

Books with price > Rs 400/-

Title: The Alchemist Author: Paulo Coelo Publisher: Penguin Price: 500.0

Title: The Winner Stands Alone Author: Paulo Coelo Publisher: Penguin Price: 550.0
Title: Harry Potter Author: JK Rowling Publisher: Bloomsbury Price: 750.0

Write an Publisher's name: Penguin

Title: The Alchemist Author: Paulo Coelo Publisher: Penguin Price: 500.0

Title: The Winner Stands Alone Author: Paulo Coelo Publisher: Penguin Price: 550.0
Write full or part of book title
Potter

Title: Harry Potter Author: JK Rowling Publisher: Bloomsbury Price: 750.0
Write full or part of book title **for** publisher updation

2

Before Updation :-

Title: 2 States Author: Chetan Bhagat Publisher: Rupa Publication Price: 300.0
After Updation:-

Title: 2 States Author: Chetan Bhagat Publisher: Private Price: 300.0

Thank You