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*/
//Problem Statement::
/*
Identify commonalities and differences between Publication, Book and Magazine classes.
Title, Price, Copies are common instance variables and saleCopy is common method.
The differences are, Bookclass has author and orderCopies().
Magazine Class has data members as orderQty, Current issue and method receiveNewissue().Write a program to
find how many copies of the given books are ordered and display total sale of publication.
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import java.util.*;

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class publication {
    //private data members
    private String title;
    private int price;
    private int copies;
    private int total;

    Scanner sc=new Scanner(System.in);//scanner class object

    public void setttitle(String title) {
        //setter method for title
        this.title=title;
    }

    public void setcopies(int copies) {
        //setter method for copies
        this.copies=copies;
    }

    public String gettitle() {
        //getter method for title
        return title;
    }

    public int getTotal() {
        //getter method for price
        return total;
    }

    public int getCopies() {
        //getter method for copies
        return copies;
    }
}

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    }

    public int getprice() {
        return price;
    }

    void read_publ() {
        //read or input method for common data members of magazine and book class

        System.out.print("enter title : ");
        title=sc.next();
        System.out.print("enter price: ");
        price=sc.nextInt();
        System.out.print("enter copies: ");
        copies=sc.nextInt();
    }

    void display() {
        //display method for common data members of book and magazine class

        System.out.print(title+"\t"+price+"\t"+copies);
    }

    void sale_copy(int number) {
        //common method to sale book or magazine and generate bill
        if (number <= copies)
            //if customer needed copies are less than available
            {
                copies=copies-number;
                total=total + number*price;
                System.out.println("\tYOU PURCHASED "+number+" COPIES
\n\tYOU HAVE TO PAY : "+(price*number));
            }
        else
            //if customer needs copies more than available in stock
            System.out.println("    INSUFFICIENT STOCK!!!!!!!!!!");
    }

}

//===== CLASS book =====//
class book extends publication {

    private String author;

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//data member of book class only

void order_copies(int number) {           //increase available copies of book by
ordering
    int x=getCopies()+number;
    setcopies(getCopies()+number);
    //as data members are private, we access them with the help of methods
    System.out.println("\n\tORDER SUCESSFUL....");
    System.out.println("\tCOPIES AVAILABLE : "+x);
}

void read_book() {
    //method calling read method of publication class and also reading author
    read_publ();
    System.out.print("enter author book: ");
    author=sc.next();
}

void display_book(){
    System.out.println("title \tprice \tcopy \tauthor");
    display();//call to display defined in publication class
    System.out.println("\t"+author);
}
}

//===== CLASS magazine =====//
class magazine extends publication{
    //magazine class is inherited from publication

    private int order_qty; //data members
    private String issue_date;

    void receive_issue(String new_issue_date) {
        //method to issue new or upgraded magazine
        System.out.println("ENTER NEW COPIES ORDERED: ");
        order_qty=sc.nextInt();

        setcopies(order_qty);
        //setting values to copies by setter method

        issue_date=new_issue_date;
        System.out.println("\tTHE MAGAZINE "+gettitle()+" \n\t WITH ISSUE DATE
"+issue_date+"AVAILABLE");
    }
}

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void read_mag() {           //method to read or input magazine details
    read_publ();           //call to read method defined in publication class
    System.out.print("Enter THE Current Issue Date [dd/mm/yyyy]");
    issue_date=sc.next();
}

void display_mag() {        //display method to display
    System.out.println("title \tprice \tcopy \tdate");
    display();
    System.out.println("\t"+issue_date);
}
}

//===== CLASS Main =====//
public class Mauli2 {

    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        book b=new book();
        magazine m=new magazine();

        int outer;
        do {

            System.out.println("\n\n\tCHOOSE ONE OF THE
FOLLOWING...\n\n\t1.BOOK \t\t2.MAGAZINE"+ "\n\n\t3.TOTAL SALE
AMOUNT\t4.REVENUE OF PUBLICATION\n\n");
            System.out.print("Choice::");
            int k=sc.nextInt();
            int a;
            aa:

            if(k==1) {

                do {
                    int c;
                    System.out.print("\n\t\tMENU  FOR  BOOK\n");
                    System.out.print("\t1.read book \t\t2.display \n\t3.sale copies
\t\t4.order copies");

                    System.out.print("\n\tChoice::");
                    c=sc.nextInt();
                    switch (c){

                        case 1:

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        System.out.println("=====
=====\\n");
                                b.read_book();

        System.out.println("=====
=====\\n");
                                break;
                                case 2:

        System.out.println("=====
=====\\n");
                                b.display_book();

        System.out.println("=====
=====\\n");
                                break;
                                case 3:

        System.out.println("=====
=====\\n");
                                System.out.print("HOW MANY COPIES YOU(for
customer) WANT : ");
                                int n1=sc.nextInt();
                                b.sale_copy(n1);

        System.out.println("=====
=====\\n");
                                break;
                                case 4:

        System.out.println("=====
=====\\n");
                                System.out.print("ENTER COPIES WANT TO
ORDER(for shop): ");
                                int n2=sc.nextInt();
                                b.order_copies(n2);

        System.out.println("=====
=====\\n");
                                break;
                                default:
                                System.out.println("invalid");

    }

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        System.out.println("Do you want to continue with book
section[1/0]\n\t1.YES \t\t0.NO");
        System.out.print("\tChoice::");
        a=sc.nextInt();
        if(a==0)
            break aa;

    }while(a==1);

}

else if(k==2)
{

    mm:
    do {
        System.out.println("\n\t\tMENU  FOR
MAGAZINE...\n\n\t1.READ \t\t2.DISPLAY \n\t3.SALE MAGAZINE COPIES \t4.RECEIVE
NEW ISSUE\n");

        int d;
        System.out.print("\n\tChoice::");
        d=sc.nextInt();
        switch(d) {
            case 1:

                System.out.println("=====
=====\\n");

                m.read_mag();

                System.out.println("=====
=====\\n");

                break;
            case 2:

                System.out.println("=====
=====\\n");

                m.display_mag();

                System.out.println("=====
=====\\n");

                break;
            case 3:

                System.out.println("=====
=====\\n");

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WANT(customer)?? ");
                                System.out.println("HOW MANY COPIES YOU
                                int n3=sc.nextInt();
                                m.sale_copy(n3);

                                System.out.println("=====
                                =====\n");
                                break;
                                case 4:

                                System.out.println("=====
                                =====\n");

                                System.out.println("ENTER THE NEW ISSUE DATE
                                [dd/mm/yyyy]: ");

                                String date=sc.next();
                                m.receive_issue(date);

                                System.out.println("=====
                                =====\n");

                                break;
                                }
                                System.out.println("DO YOU WANT TO CONTINUE WITH
MAGAZINE SECTION [1/0]\n\t1.YES\t0.NO");
                                System.out.print("\tChoice::");
                                a=sc.nextInt();
                                if(a==0)
                                    break mm;

                                }while(a==1);
                                }

                                else if (k==3) {
                                    System.out.println("\n\tTOTAL SALE AMOUNT IS(to be paid by
customer) = "+(b.getTotal()+m.getTotal())+ " ");
                                }

                                else if(k==4) {
                                    System.out.println("\n\tTOTAL REVENUE OF PUBLICATION
IS : "+ (b.getCopies()*b.getprice() + m.getCopies()*m.getprice()));
                                }

                                else
                                    System.out.println("invalid key....");
                                System.out.println("DO YOU WANT TO CONTINUE WITH
PUBLICATION???\n\t1.CONTINUE \t0.TERMINATE");
                                outer=sc.nextInt();

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        }while(outer!=0);
        sc.close();
    }
}
```

OUTPUT:

CHOOSE ONE OF THE FOLLOWING....

- 1.BOOK 2.MAGAZINE
- 3.TOTAL SALE AMOUNT 4.REVENUE OF PUBLICATION

Choice::1

 MENU FOR BOOK

1.read book 2.display

3.sale copies 4.order copies

Choice::1

=====

enter title : java

enter price: 500

enter copies: 2

enter author book: bajaran

=====

Do you want to continue with book section[1/0]

1.YES 0.NO

Choice::1

 MENU FOR BOOK

1.read book 2.display

3.sale copies 4.order copies

Choice::2

=====

title price copy author

java 500 2 bajaran

=====

Do you want to continue with book section[1/0]

1.YES 0.NO

Choice::1

MENU FOR BOOK
1.read book 2.display
3.sale copies 4.order copies
Choice::3

=====

HOW MANY COPIES YOU(for customer) WANT : 1
YOU PURCHASED 1 COPIES
YOU HAVE TO PAY : 500

=====

Do you want to continue with book section[1/0]
1.YES 0.NO
Choice::1

MENU FOR BOOK
1.read book 2.display
3.sale copies 4.order copies
Choice::4

=====

ENTER COPIES WANT TO ORDER(for shop): 1

ORDER SUCESSFUL....
COPIES AVAILABLE : 2

=====

Do you want to continue with book section[1/0]
1.YES 0.NO
Choice::0

DO YOU WANT TO CONTINUE WITH PUBLICATION???

1.CONTINUE 0.TERMINATE

1

CHOOSE ONE OF THE FOLLOWING....

1.BOOK 2.MAGAZINE

3.TOTAL SALE AMOUNT 4.REVENUE OF PUBLICATION

Choice::2

MENU FOR MAGAZINE...

- 1.READ 2.DISPLAY
3.SALE MAGAZINE COPIES 4.RECEIVE NEW ISSUE

Choice::1

=====

enter title : Titanic
enter price: 500
enter copies: 2
Enter THe Current Issue Date [dd/mm/yyyy]28/20/2024

=====

DO YOU WANT TO CONTINUE WITH MAGAZINE SECTION [1/0]

- 1.YES 0.NO

Choice::1

MENU FOR MAGAZINE...

- 1.READ 2.DISPLAY
3.SALE MAGAZINE COPIES 4.RECEIVE NEW ISSUE

Choice::2

=====

title	price	copy	date
Titanic	500	2	28/20/2024

=====

DO YOU WANT TO CONTINUE WITH MAGAZINE SECTION [1/0]

- 1.YES 0.NO

Choice::1

MENU FOR MAGAZINE...

- 1.READ 2.DISPLAY
3.SALE MAGAZINE COPIES 4.RECEIVE NEW ISSUE

Choice::3

=====

HOW MANY COPIES YOU WANT(customer)??

1

YOU PURCHASED 1 COPIES
YOU HAVE TO PAY : 500

=====

DO YOU WANT TO CONTINUE WITH MAGAZINE SECTION [1/0]

1.YES 0.NO

Choice::1

MENU FOR MAGAZINE...

1.READ 2.DISPLAY
3.SALE MAGAZINE COPIES 4.RECEIVE NEW ISSUE

Choice::4

=====

ENTER THE NEW ISSUE DATE [dd/mm/yyyy]:

23/12/2024

ENTER NEW COPIES ORDERED:

1

THE MAGAZINE Titanic
WITH ISSUE DATE 23/12/2024 AVAILABLE

=====

DO YOU WANT TO CONTINUE WITH MAGAZINE SECTION [1/0]

1.YES 0.NO

Choice::0

DO YOU WANT TO CONTINUE WITH PUBLICATION???

1.CONTINUE 0.TERMINATE

1

CHOOSE ONE OF THE FOLLOWING....

1.BOOK 2.MAGAZINE
3.TOTAL SALE AMOUNT 4.REVENUE OF PUBLICATION

Choice::3

TOTAL SALE AMOUNT IS(to be paid by customer) = 1000
DO YOU WANT TO CONTINUE WITH PUBLICATION???

1.CONTINUE 0.TERMINATE

1

CHOOSE ONE OF THE FOLLOWING....

1.BOOK 2.MAGAZINE

3.TOTAL SALE AMOUNT 4.REVENUE OF PUBLICATION

Choice::4

TOTAL REVENUE OF PUBLICATION IS : 1500

DO YOU WANT TO CONTINUE WITH PUBLICATION???

1.CONTINUE 0.TERMINATE

0