```
import java.util.*;
class Publication{
    private String title;
    private int price;
    private int copies;
    static int totalSale=0;
    Publication(String title, int price, int copies){
        this.title=title;
        this.price=price;
        this.copies=copies;
    }
    public String getTitle() {
        return title;
    }
    public int getPrice() {
        return price;
    }

    public int getCopies() {
        return copies;
    }

    public boolean sellCopies(int order) {
        if(order<=this.copies) {
            this.copies = this.copies - order;
            return true;
        }
        else {
            System.out.println("Copies insufficient!");
            return false;
        }
```

```
    }
    public String calculateSale(int bookSale,int magSale){
        totalSale=bookSale+magSale;
        return ("\nTotal Sale: "+totalSale);
    }
}
class Book extends Publication{
    private String author;
    private String supplier="Default";
    static int bookSale=0;
    Book(String title, String author, int price, int copies){
        super(title,price,copies);
        this.author=author;
    }
    public void orderCopies(int order){
        if(super.sellCopies(order)) bookSale+=this.getPrice()*order;
    }

    public void orderCopies(int order, String supplier){
        super.sellCopies(order);
        this.supplier=supplier;
        bookSale+=this.getPrice()*order;
    }
    public String calculateSale(){
        return "Book Sale: "+bookSale;
    }
    @Override
    public String toString() {
        return ("Title:"+this.getTitle()+" || Author: "+this.author+" || Price: "+this.getPrice()+" ||
Available Copies: "+this.getCopies()+" || Supplier: "+this.supplier);
    }
```

```
}

class Magazine extends Publication{
   static int magSale=0;
   private int issue;
   Magazine(String title, int price, int copies, int issue){
      super(title,price,copies);
      this.issue=issue;
   }
   public void orderQty(int order){
      if(super.sellCopies(order)) magSale+=this.getPrice()*order;
   }
   public String calculateSale() {
      return "Magazine Sale: "+magSale;
   }
   public void receiveIssue(int newIssue){
      if(newIssue<=this.issue) System.out.println("\nCan't revert to older issue:");
      else this.issue=newIssue;
   }

   @Override
   public String toString() {
      return ("Title:"+this.getTitle()+" || Available Copies: "+this.getCopies()+" ||
Price:"+this.getPrice()+" || Issue:"+this.issue);
   }
}

public class Assignment3 {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      List <Publication> list=new ArrayList<>();
```

```
        while(true){
            System.out.print("\n------------------------------\n\t\t  Enter Choice\n------------------------------
\n\t\t\t1.Book\n\t\t  2.Magazine\n\t3.Calculate Total Sale\n\t\t\t4.Exit\n------------------------------
\nYour Choice:");
            int choice=sc.nextInt();
            sc.nextLine();
            if(choice==4) break;
            switch (choice){
               case 1://book
                  System.out.print("\n------------------------------\n\t\t\tBOOK\n------------------------------\n1.Add
Book\n2.Display Book\n3.Order Book\n4.Calculate Book Sale\n------------------------------\nYour
Choice:");
                  int opChoice1=sc.nextInt();
                  sc.nextLine();
                  System.out.println();
                  switch (opChoice1){
                     case 1://add book
                        System.out.print("Enter Title: ");
                        String title1=sc.nextLine();
                        System.out.print("Enter Price: ");
                        int price=sc.nextInt();
                        sc.nextLine();
                        System.out.print("Enter Copies: ");
                        int copies=sc.nextInt();
                        sc.nextLine();
                        System.out.print("Enter Author: ");
                        String author=sc.nextLine();
                        list.add(new Book(title1,author,price,copies));
                        break;
                     case 2://display books
                        System.out.println("AVAILABLE BOOKS\n------------------------------");
                        for(Publication p:list){
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        if(p instanceof Book) System.out.println(p);
      }
      break;
    case 3://order book
      System.out.print("Enter Book Title:");
      String booktitle=sc.nextLine();
      System.out.print("Enter 1 to change supplier / 0 to continue: ");
      int wantSupplier=sc.nextInt();
      sc.nextLine();
      boolean flag=false;
      for(Publication p:list){
        if(p instanceof Book){
          Book b=(Book)p;
          if(b.getTitle().equals(booktitle)){
            System.out.print("Enter number of copies:");
            int order =sc.nextInt();
            sc.nextLine();
            if(wantSupplier==1){
              System.out.print("Enter Supplier name: ");
              String supplier=sc.nextLine();
              b.orderCopies(order,supplier);
            }
            else{
              b.orderCopies(order);
            }
            flag=true;
            break;
          }
        }
      }
      if(!flag) System.out.println("Book not available!");
```
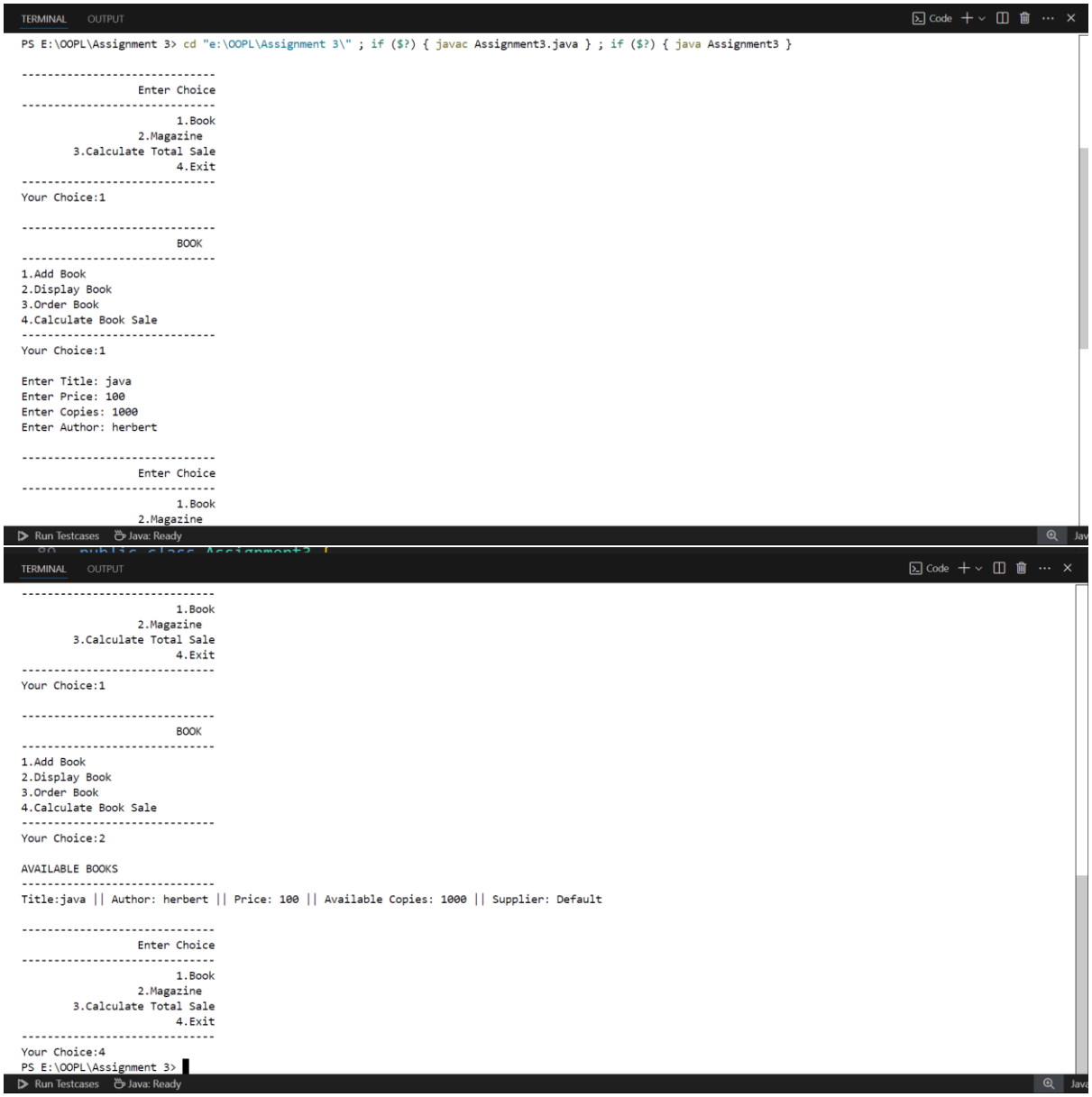

```
                    break;
                case 4:// calculate sale
                    Book b=new Book(" "," ",0,0);
                    System.out.println(b.calculateSale());
                    break;
                default:
                    System.out.println("Invalid choice!!!");
                    break;
            }
            break;
        case 2://magazine
            System.out.print("\n------------------------------\n\t\tMAGAZINE\n------------------------------
\n1.Add Magazine\n2.Update Issue\n3.Display Magazine\n4.Order Magazine\n5.Calculate Book
Sale\n------------------------------\nYour Choice:");
            int opChoice2=sc.nextInt();
            sc.nextLine();
            System.out.println();
            switch (opChoice2){
                case 1://add magazine
                    System.out.print("Enter Title: ");
                    String title1=sc.nextLine();
                    System.out.print("Enter Price: ");
                    int price=sc.nextInt();
                    sc.nextLine();
                    System.out.print("Enter Copies: ");
                    int copies=sc.nextInt();
                    sc.nextLine();
                    System.out.print("Enter Issue: ");
                    int issue=sc.nextInt();
                    sc.nextLine();
                    list.add(new Magazine(title1,price,copies,issue));
                    break;
```

```
case 2://receive issue
   System.out.print("Enter name of magazine to update: ");
   String mag=sc.nextLine();
   boolean check=false;
   for(Publication p:list){
      if(p instanceof Magazine){
         Magazine m=(Magazine)p;
         if(m.getTitle().equals(mag)) {
            System.out.print("Enter updated issue: ");
            int newIssue = sc.nextInt();
            sc.nextLine();
            m.receiveIssue(newIssue);
            System.out.println("Issue updated");
            check=true;
            break;
         }
      }
   }
   if(!check) System.out.println("Magazine not found!!");
   break;
case 3://display magazines
   System.out.println("\nAVAILABLE MAGAZINES\n------------------------------");
   for(Publication p:list){
      if(p instanceof Magazine) System.out.println(p);
   }
   break;
case 4://order magazines
   System.out.print("Enter Magazine Title: ");
   String title2=sc.nextLine();
   boolean flag=false;
   for(Publication p:list){
```

```
                if(p instanceof Magazine){
                    Magazine m=(Magazine)p;
                    if(m.getTitle().equals(title2)){
                        System.out.print("Enter number of copies:");
                        int order =sc.nextInt();
                        m.orderQty(order);
                        flag=true;
                        break;
                    }
                }
            }
            if(!flag) System.out.println("Magazine not available!");
            break;
        case 5:// calculate sale
            Magazine m=new Magazine("",0,0,0);
            System.out.println(m.calculateSale());
            break;
        default:
            System.out.println("Invalid choice!!!");
            break;
      }
      break;
    case 3:
      Publication p=new Publication("",0,0);
      System.out.println(p.calculateSale(Book.bookSale,Magazine.magSale));
      break;
    default:
      System.out.println("Exiting program");
      break;
  }
}}}
```


TERMINAL
OUTPUT
Code
PS E:\OOPL\Assignment 3> cd "e:\OOPL\Assignment 3\" ; if ($?) { javac Assignment3.java } ; if ($?) { java Assignment3 }
Enter Choice
1.Book
2.Magazine
3.Calculate Total Sale
4.Exit
Your Choice:1
BOOK
1.Add Book
2.Display Book
3.Order Book
4.Calculate Book Sale
Your Choice:1
Enter Title: java
Enter Price: 100
Enter Copies: 1000
Enter Author: herbert
Enter Choice
1.Book
2.Magazine
Run Testcases
Java: Ready

TERMINAL
OUTPUT
Code
1.Book
2.Magazine
3.Calculate Total Sale
4.Exit
Your Choice:1
BOOK
1.Add Book
2.Display Book
3.Order Book
4.Calculate Book Sale
Your Choice:2
AVAILABLE BOOKS
Title:java || Author: herbert || Price: 100 || Available Copies: 1000 || Supplier: Default
Enter Choice
1.Book
2.Magazine
3.Calculate Total Sale
4.Exit
Your Choice:4
PS E:\OOPL\Assignment 3>
Run Testcases
Java: Ready