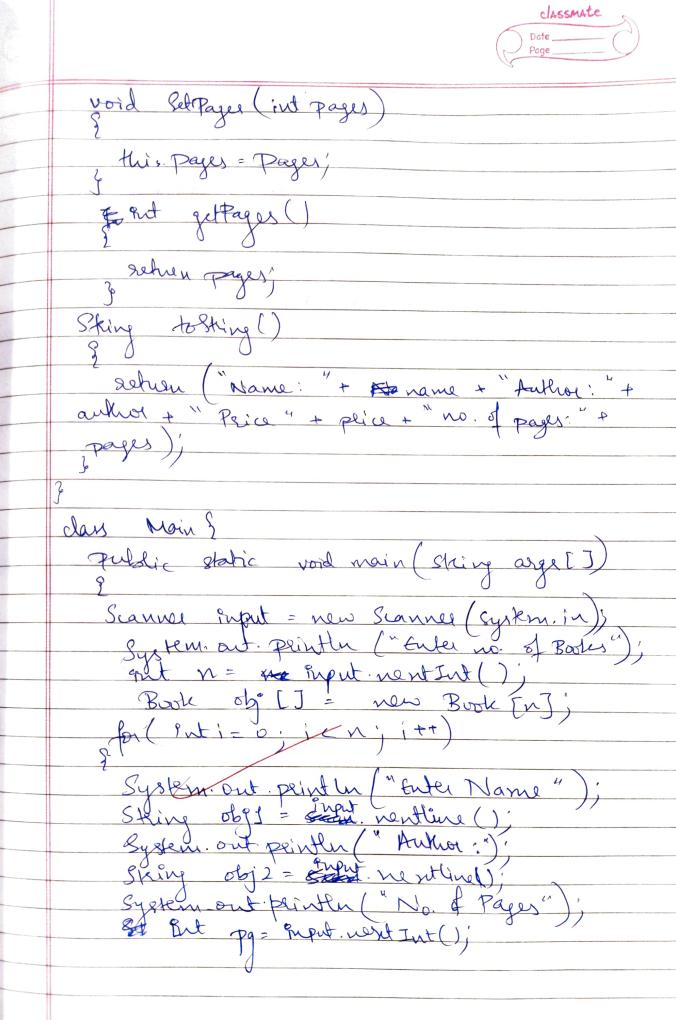Q Create a class Book which contains four members name, author, price, num_pages. Include a constructor to set the value for the members. Include methods to set and get the details of the objects Include a toString() method that would display the complete details of the book. Develop a Java program to create n book objects.

```java
import java.util.*;

class Book{
private String name;
private String author;
private float price;
private int num_pages;

    Book ({String name1, String author_name,
    { float p, int n)
    {
        name = name1;
        author = author_name;
        price = p;
        num_pages = n;
    }


void setBook ()
    {
        System.out.println(" Enter Details");
        Scanner input = new Scanner(System.in);
        System.out.println(" Enter name ");
        name = input.next();
        author = input.next();
        price = input.nextFloat();
```

```java
            num_pages = input.nextInt();
    }

    void getDetails()
    {
        System.out.println(" Details are :");
    void setName(String name)
    {
        this.name = name;
    }
    String getName()
    {
        return name;
    }
    void setAuthor(String author)
    {
        this.author = author;
    }
    String getAuthor()
    {
        return author;
    }
    void setPrice(float price)
    {
        this.price = price;
    }
    Float getPrice()
    {
        return price;
```

```java
void SetPages (int pages)
{
    this. Pages = Pages;
}
int getPages ()
{
    return pages;
}
String toString ()
{
    return ("Name: " + name + "Author: " +
author + " Price " + price + "no. of pages: " +
pages );
}
}

class Main {
    public static void main (String args[])
    {
    Scanner input = new Scanner (system. in);
    System. out. println ("Enter no. of Books");
    int n = input. nextInt ();
    Book obj [] = new Book [n];
    for ( Int i = 0; i < n; i++)
    {
    System. out. println ("Enter Name ");
    String obj1 = input. nextline ();
    System. out. println (" Author :");
    String obj2 = input. nextline ();
    System. out. println ("No. of Pages");
    Int pg = input. nextInt ();
```

```java
            System.out.println("Price : ");
            float p = input.nextFloat();
        obj[i] = new Book(obj1, obj2, pg, p);
        for (int i=0; i<n; i++)
        {
            System.out.println(obj[i].toString());
        }
    }
}
```

OUTPUT:

Enter no. of books : 2
Enter Name : x
Author : y
Price : 2000
No. f pages : 200.

Enter Name : z
Author : a
No. of pages : 400
Pric : 4000

9 Develop a Java program to create an abstract class named shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, triangle and circle such that each answer of the classes extends the class shape. Each answer of the classes containing only the method printArea() that prints the area of given shape.

import java.util. *

Abstract class Shape
{
    int x;
    int y;
    ~~abstract printArea()~~ abstract void printArea()
    {
    }
};

class Rectangle extends Shape
{
    Rectangle (int l, int b)
    {
        ~~Rexi~~ x = l;
        y = b;
    }
    void print Area()
    {
        int res;

```java
        res = x * y;
        System.out.println("The area of Rectangle is"
        + res);
    }
}

class Triangle extends shape
{
    Triangle (int l, int h)
    {
        x = l;
        y = h;
    }
    void printArea()
    {
        int result;
        result = 1/2 * x * y;

        System.out.println("Area of Triangle
is: " + result);
    }
}

class Circle extends shape
{
    Circle (int r)
    {
        x = r;
    }
```

```java
void printArea ()
  {
      int answer;
      answer = 3.14 * x * x;
      System.out.println ("Area of circle " + answer);
  }
}

class Main
  {
      public static void main (String args[])
      {
          Scanner input = new Scanner (System.in);
          System.out.println ("Enter length and breadth");

          Shape ob = new Rectangle (2, 4);
          ob.printArea ();

          Shape ob1 = new Triangle (4, 54);
          ob1.printArea ();

          Shape ob2 = new Circle (5, );
          ob2.printArea ();
      }
```

OUTPUT:
Rectangle area is 8
Triangle area is 8
Circle area is 78.5.

```
enter the number of books
2
Enter name
xyz
Enter Author
abc
Enter Price
2000
Enter Number of pages
120
Enter name
dfg
Enter Author
efg
Enter Price
500
Enter Number of pages
150
THE BOOK LIBRARY
Name of book: xyz
Name of author: abc
Price of book: 2000
number of pages of book: 120
Name of book: dfg
Name of author: efg
Price of book: 500
number of pages of book: 150
NAME:ADIKAR CHARVI SREE TEJA USN:1BM22CS012
```

```
C:\Users\BMSCE\Desktop\1BMSSCS014\week3>javac Main.java

C:\Users\BMSCE\Desktop\1BMSSCS014\week3>java Main
Rectangle area is8.0
Triangle area is8.0
Circle area is78.5
NAME:ADIKAR CHARVI SREE TEJA USN:1BM22CS012
```