3. Details of a Book :-

```
import java.util.Scanner;
class Book {
        String name;
        String auth;
        float pr;
        int num-p;
    void set_details() {
        Scanner sc = new Scanner (System.in)
        System.out.println("Enter details of book " + (i+1) +
        in name, auth, pr, num_pages order");
        name = in.next();
        auth = in.next();
        pr = in.nextInt();
        num_pages = in.nextInt();
    }
public String toString() {
        return "details of Book " + (i+1) + "\n" +
        "Name = " + name + "\n" +
        "Auth = " + auther + "\n" +
        "price = " + pr + "\n" +
        "No. of pages = " + num_pages; }
}
class Main {
    public static void main (String[] args) {
        int n;
        Scanner n = new Scanner (System.in)
        System.out.println("Enter no. of books")
        n = in.nextInt();
        Books b[] = new Books[n];
```

```
for (int i=0; i<n; i++){
        b[i] = new Books();
        b[i].set(i);
    }
    System.out.println();
    for(int i=0; i<n; i++)
        System.out.println(b[i].toString());
    }
}
}
```

SURYA Gold
Date Page

Algorithm for 1st prog:

1. Start
2. Input n
3. Create book array
4. Create loop to accept book details
5. Create loop to print details
6. Stop

output for 3rd prog :

→ Enter the no. of books : 2

Enter name :

dff

Enter author :

dff

Enter price :

800

Enter no of pages:
67

Enter details for book 2:
Enter name:
kfdf
Enter author:
abc
Enter price:
700
Enter nos of pages:
90

Details of all books:
Book 1:
Name: dff
Author: dff
Price: 800
Num of pages: 67

Book 2:
Name: kfdf
Author: abc
Price: 700
Num of pages: 90

12/01/24

```
C:\Users\abdes\OneDrive\Documents\Java>javac java_code/D.java

C:\Users\abdes\OneDrive\Documents\Java>java java_code.D
Anagh.B.Deshpande(1BM22CS037)
Enter number of books
2
Enter details of books 1 in name,author,price,num_pages order
dff
dff
80
67
Enter details of books 2 in name,author,price,num_pages order
kfdf
abc
700
90

Details of Book 1
Name: dff
Author: dff
Price: 80
No of pages: 67
Details of Book 1
Name: kfdf
Author: abc
Price: 700
No of pages: 90

C:\Users\abdes\OneDrive\Documents\Java>
```

4. Java Program to calculate area.

```
import java.util.*;
abstract class Shape {
        double a, b;
        abstract void printArea();
}
class Triangle extends Shape {
        void getData(double x, double y)
        { a = x; b = y; }
        void printArea()
        {
          double area = 0.5 * a * b;
          System.out.println("Area of Triangle = " + area);
        }
}
class Rectangle extends Shape {
        void getData(double x, double y)
        { a = x; b = y; }
        void printArea()
        { double area = a * b;
```

```
        System.out.println("Area of rectangle = "+area);
    }
}

class circle extends Shape{
    void getdata(double x)
    {a=x;}
    void printarea()
    {double area = 3.142*a*a;
    System.out.println("Area of
    circle = "+area);
    }
}
class abstractda{ public static void
    main(String args[])
{ int ch;
    Shape sc;
    Scanner SC = new Scanner(System.in);
    rectangle r = new rectangle();
    triangle t = new triangle();
    circle c = new circle();
    System.out.println("1. Area of rectangle \n 2. Area
    of tri \n 3. Area of circle \n Enter choice");
    Switch(ch)
    { case 1:
        double l = sc.nextDouble();
        double b = sc.nextDouble();
        r.getdata(l,b);
        r.printarea();
        break;
    Case 2:
        double bl = sc.nextDouble();
        double h = sc.nextDouble();
        t.getdata(bl,h);
```

```
t.printarea();
break;
case 3:
    double r1 = sc.nextDouble();
    c.getdata(r1);
    c.printarea();
    break;
default : System.out.println("Invalid");
    }
  }
}
```

4. Output :-

```
Enter the radius of circle
2
area of circle is 12.56
Enter length & breadth of rectangle
5
4
area of rectangle 20
Enter base & height of triangle
5
2
area of triangle 5
```

Algorithm of 2nd prog:

1. Start
2. Create class Rectangle, Triangle, Circle, extending Shape
3. Create constructor for each class & method to printarea
4. printArea method ~~print~~ the formula to calculate area & return it
5. Stop

```
C:\Users\abdes\OneDrive\Documents\Java>javac java_code/Main.java

C:\Users\abdes\OneDrive\Documents\Java>java java_code.MAin
Error: Could not find or load main class java_code.MAin
Caused by: java.lang.NoClassDefFoundError: java_code/MAin (wrong name: java_code/Main)

C:\Users\abdes\OneDrive\Documents\Java>java java_code.Main
Anagh.B.Deshpande(1BM22CS037)
Enter length of Rectangle: 5
Enter width of Rectangle: 4
Enter base of Triangle: 2
Enter height of Triangle: 5
Enter radius of Circle: 2
Area of Rectangle: 20
Area of Triangle: 5.0
Area of Circle: 12.566370614359172
```