Level 1 Practice Programs

1. **Write a program to find the age of Harry if the birth year is 2000. Assume the Current Year is 2024.**

```java
public class AgeCalculator {
    public static void main(String[] args) {
        int birthYear = 2006;
        int currentYear = 2025;
        int age = currentYear - birthYear;

        System.out.println("Shounak's age is : "+ age + " years");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac AgeCalculator.java

C:\Users\Shounak Roy\Desktop\JAVA>java AgeCalculator
Shounak's age is : 19 years
```

2. **Sam's mark in Maths is 94, Physics is 95 and Chemistry is 96 out of 100. Find the average percent mark in PCM.**

```java
public class AvgMarks {
    public static void main (String[] args){
        int maths = 94;
        int phy = 95;
        int chem = 96;

        int avg_marks = (maths + phy + chem) / 3;
        System.out.println("Average marks = " +avg_marks);
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac AvgMarks.java

C:\Users\Shounak Roy\Desktop\JAVA>java AvgMarks
Average marks = 95
```

3. **Create a program to convert the distance of 10.8 kilometers to miles.**

```java
public class ConvertKMtoMiles{
    public static void main (String[] args){
        double d = 10.8;
        double miles = d*1.6;

        System.out.println("The distance " +d+ " km in miles is " +miles+ " miles");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac ConvertKMtoMiles.java

C:\Users\Shounak Roy\Desktop\JAVA>java ConvertKMtoMiles
The distance 10.8 km in miles is 17.28 miles
```

4. **Create a program to calculate the profit and loss in number and percentage based on the cost price of INR 129 and the selling price of INR 191.**

```java
public class CalProandLoss{
    public static void main (String[] args){
        int sp = 191;
        int cp = 129;

        int profit = sp - cp;
        double profit_percent = ((double)profit/cp) * 100;

        System.out.println("The Cost Price is INR " +cp+ " and Selling Price is INR " +sp+ ". The Profit is INR " +profit+ " and the Profit Percentage is " +profit_percent+ "%.");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac CalProandLoss.java

C:\Users\Shounak Roy\Desktop\JAVA>java CalProandLoss
The Cost Price is INR 129 and Selling Price is INR 191. The Profit is INR 62 and the Profit Percentage is 48.06201550387597%.
```

5. **Suppose you have to divide 14 pens among 3 students equally. Write a program to find how many pens each student will get if the pens must be divided equally. Also, find the remaining non-distributed pens.**

```java
public class NoOfPens{
    public static void main (String[] args){
        int stud = 3;
        int pens = 14;

        int pens_per_person = pens / stud;
        int remaining_pens = pens % stud;

        System.out.println("The Pen Per Student is " +pens_per_person+ " and the remaining pen not distributed is " +remaining_pens+ ".");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac NoOfPens.java

C:\Users\Shounak Roy\Desktop\JAVA>java NoOfPens
The Pen Per Student is 4 and the remaining pen not distributed is 2.
```

6. **The University is charging the student a fee of INR 125000 for the course. The University is willing to offer a discount of 10%. Write a program to find the discounted amount and discounted price the student will pay for the course.**

```java
public class Fee{
    public static void main (String[] args){
        int fee = 125000;
        double discount_percent = 10;
        double discount = fee/discount_percent;
        double final_amount = fee - discount;

        System.out.println("The discount amount is INR " +discount+ " and the remaining pen not distributed is " +final_amount+ ".");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac Fee.java

C:\Users\Shounak Roy\Desktop\JAVA>java Fee
The discount amount is INR 12500.0 and the remaining pen not distributed is 112500.0.
```

7. **Write a Program to compute the volume of Earth in km^3 and miles^3.**

```java
public class Volume{
    public static void main (String[] args){
        int r = 6378;
        double VofSph = 4/3 * 22/7 * r*r*r;
        double VinMiles = VofSph/1.6;
        double miles = (double) VinMiles;

        System.out.println(" The volume of earth in cubic kilometers is " +VofSph+ " and cubic miles is " +miles+ ".");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac Volume.java

C:\Users\Shounak Roy\Desktop\JAVA>java Volume
 The volume of earth in cubic kilometers is 9.6068588E8 and cubic miles is 6.00428675E8.
```

8. **Create a program to convert distance in kilometers to miles.**

```java
import java.util.Scanner;
public class KMtoMiles {
    public static void main (String[] args){

        double km;
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the distance in KM : ");
        km = input.nextDouble();
        double miles = km / 1.6;

        System.out.println("The total miles is " +miles+ " miles for the given " +km+ " km.");
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac KMtoMiles.java

C:\Users\Shounak Roy\Desktop\JAVA>java KMtoMiles
Enter the distance in KM : 50
The total miles is 31.25 miles for the given 50.0 km.
```

9. **Write a new program similar to the program # 6 but take user input for Student Fee and University Discount.**

```java
import java.util.Scanner;
public class FeeNew {
    public static void main (String[] args){
        double fee;
        double discount_percentage;
        double discount_amount;
        double final_amount;

        Scanner input = new Scanner(System.in);
        System.out.print("Enter fee : ");
        fee = input.nextDouble();
        System.out.print("Enter university discount (%): ");
        discount_percentage = input.nextDouble();
        discount_amount = (discount_percentage/100) * fee;
        final_amount = fee - discount_amount;

        System.out.println("Original University fee : $" +fee);
        System.out.println("Discount provided by University : " +discount_percentage+ "%");
        System.out.println("Final amount to be paid : $" +final_amount);

        input.close();
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac FeeNew.java

C:\Users\Shounak Roy\Desktop\JAVA>java FeeNew
Enter fee : 50000
Enter university discount (%): 30
Original University fee : $50000.0
Discount provided by University : 30.0%
Final amount to be paid : $35000.0
```

10. **Write a program that takes your height in centimeters and converts it into feet and inches.**

```java
import java.util.Scanner;
public class Height{
    public static void main(String[] args){
        double height_cm;
        double height_inch;
        double height_feet;

        Scanner input = new Scanner(System.in);
        System.out.print("Enter your height in cm : ");
        height_cm = input.nextDouble();
        height_inch = height_cm/2.54;
        height_feet = height_inch/12;

        System.out.println("Your height in cm : " +height_cm+ " cm");
        System.out.println("Your height in inches : " +height_inch+ " inches");
        System.out.println("Your height in feet : " +height_feet+ " feet");

        input.close();
    }
}
```

```
C:\Users\Shounak Roy\Desktop\JAVA>javac Height.java

C:\Users\Shounak Roy\Desktop\JAVA>java Height
Enter your height in cm : 169
Your height in cm : 169.0 cm
Your height in inches : 66.53543307086615 inches
Your height in feet : 5.544619422572179 feet
```