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

I/P => NONE

O/P => Harry's age in 2024 is 24

Soln:

```
class week1{
        public static void main(String[] args){
                int current_year = 2024;
                int birth_year = 2000;
                int age=current_year - birth_year;
System.out.println("Harry's age in 2024 is "+ age);}}
```

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

I/P => NONE

O/P => Sam’s average mark in PCM is 95.0

Soln:

```
class week1{
        public static void main(String[] args){
                int maths = 94;
                int physics = 95;
                int chemistry = 96;
                double average_percent_mark = (maths+physics+chemistry)/3;
System.out.println("Sam's average mark in PCM is "+average_percent_mark );}}
```

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

Hint: 1 km = 1.6 miles

I/P => NONE

O/P => The distance 10.8 km in miles is 17.28.

Soln:

```
class week1{
        public static void main(String[] args){
                double distanceinkm = 10.8;
```

```
        double distanceinm=1.6 * 10.8; //1km=1.6 miles
System.out.println("The distance  "+distanceinkm+ " km in miles is  " + distanceinm  );}}
```

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.

Hint =>

a. Use a single print statement to display multiline text and variables.

a. Profit = selling price - cost price

a. Profit Percentage = profit / cost price * 100

I/P => NONE

O/P =>

The Cost Price is INR 129 and Selling Price is INR 191

The Profit is INR 52 and the Profit Percentage is 48.06 .

Soln:

```
class week1{
    public static void main(String[] args){
        int selling_price = 191;
        int cost_price = 129;
        int profit = selling_price -cost_price;
        double profit_percentage = ((double)profit/(double)cost_price) * 100;
System.out.println("The Cost Price is INR " + selling_price + " and Selling Price is INR " + cost_price+
". The Profit is INR " + profit+ " and the Profit Percentage is " + profit_percentage);}}
```

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.

Hint =>

a. Use Modulus Operator (%) to find the reminder.

a. Use Division Operator to find the Quantity of pens

I/P => NONE

O/P => The Pen Per Student is 4 and the remaining pen not distributed is 2.

Soln:

```
class week1{
    public static void main(String[] args){
```

```
        int totalpen = 14;

        int no_of_students =3;

        int pen_per_student = totalpen / no_of_students;

    int remaining_pens = totalpen % no_of_students;

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

}}
```

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.

Hint =>

a. Create a variable named fee and assign 125000 to it.

a. Create another variable discountPercent and assign 10 to it.

a. Compute discount and assign it to the discount variable.

a. Compute and print the fee you have to pay by subtracting the discount from the fee.

O/P => The discount amount is INR 12500 and final discounted fee is INR 112500.

```
class week1{

    public static void main(String[] args){

        int fee = 125000;

        int discountpercent = 10 ;

        int discounted_amount = fee/discountpercent;

        int finalamounttopay = fee-discounted_amount;

        System.out.println("The discount amount is INR " +discounted_amount + " and final discounted fee is INR " +  finalamounttopay) ;

}}
```

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

Hint => Volume of a Sphere is (4/3) * pi * r^3 and radius of earth is 6378 km

O/P => The volume of earth in cubic kilometers is 815085969407.17 and cubic miles is 3338592130691.76

Soln:

```
class week1{

    public static void main(String[] args){
```

```
   int radiusinkm = 6378;

        double radiusinmiles = radiusinkm * 1.6;

        double volumeofsphere = (4/3) * Math.PI * Math.pow(radiusinkm,3);

        double volumeincubicmiles = (4/3) * Math.PI * Math.pow(radiusinmiles,3);

        System.out.println("The volume of earth in cubic kilometers is " +
String.format("%.2f",volumeofsphere)+ " and cubic miles is " +
String.format("%.2f",volumeincubicmiles));

}}
```

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

Hint =>

a. Create a variable km and assign type as double as in double km;

a. Create Scanner Object to take user input from Standard Input that is the Keyboard as in Scanner input = new Scanner(System.in);

a. Use Scanner Object to take user input for km as in km = input.nextInt();

a. Use 1 mile = 1.6 km formulae to calculate miles and show the output

I/P => km

O/P => The total miles is 0.6 mile for the given 1 km

Soln:

```
import java.util.*;

class week1{

        public static void main(String[] args){

                Scanner obj = new Scanner(System.in);

                System.out.println("enter distance in kms");

                double distancekm =obj.nextDouble();

                double distancemiles = distancekm * 0.6;

                System.out.println("The total miles is  mile " + distancemiles + " for the given " +
distancekm + " km");


                obj.close();

}}
```

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

Hint =>

a. Create a variable named fee and take user input for fee.

a. Create another variable discountPercent and take user input.

a. Compute the discount and assign it to the discount variable.

a. Compute and print the fee you have to pay by subtracting the discount from the fee.

I/P => fee, discountPrecent

O/P => The discount amount is INR 12500 and final discounted fee is INR 112500.

Soln:

```
import java.util.*;

class week1{

	public static void main(String[] args){

		Scanner obj = new Scanner(System.in);

		System.out.println("enterfee");

		int fee = obj.nextInt();

		System.out.println("enter discountedpercent");

		int discountpercent = obj.nextInt();

		int discounted_amount = fee/discountpercent;

		int finalamounttopay = fee-discounted_amount;

		System.out.println("The discount amount is INR " +discounted_amount + " and final discounted fee is INR " +  finalamounttopay) ;

		obj.close();

}}
```

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

Hint => 1 foot = 12 inches and 1 inch = 2.54 cm

I/P => height

O/P => your Height in cm is 168.0 while in feet is 5.511811023622047 and inches is 66.14173228346456Soln:

```
import java.util.*;

class week1{

	public static void main(String[] args){
```

```
                Scanner obj = new Scanner(System.in);
                System.out.println("enter height in cms ");
                double heightcm = obj.nextDouble();
                //1 foot = 12 inches and 1 inch = 2.54 cm
                double inch =  heightcm/2.54;
                double foot = inch/12 ;
                System.out.println("our Height in cm is "+ heightcm +  " while in feet is " + foot + "
and inches is " +  inch);


                obj.close();
}}
```