Q-01.

Q-01-A-code:

```java
package Q_01;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_01_a {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.00");
        double A,B,C;
        System.out.println("Enter A:");
        A = scanner.nextDouble();
        System.out.println("Enter B:");
        B = scanner.nextDouble();
        System.out.println("Enter C:");
        C = scanner.nextDouble();

        System.out.println(df.format(Math.sqrt(Math.pow(B,2)+4*A*C)));



    }
}
```

Q-01-A-output:

```
Enter A:
5
Enter B:
4
Enter C:
3
8.72
```

Q-01-B-code:

```java
package Q_01;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_01_b {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.00");
        double X,Y;
        System.out.print("Enter X:");
        X = scanner.nextDouble();
        System.out.print("Enter Y:");
        Y = scanner.nextDouble();
        System.out.print(df.format(Math.sqrt(X + 4*Math.pow(Y,3))));
    }
}
```

Q-01-B-output:

```
Enter X:5
Enter Y:4
16.16
Process finished with exit code 0
```

Q-01-C-code:

```java
package Q_01;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_01_c {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.00");
        double X,Y;
        System.out.println("Enter X:");
        X = scanner.nextDouble();
        System.out.println("Enter Y:");
        Y = scanner.nextDouble();
        System.out.println(df.format(Math.cbrt(X*Y)));
    }
}
```

Q-01-C-output:

```
Enter X:
3
Enter Y:
5
2.47
```

Q-01-D-code:

```java
package Q_01;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_01_d {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.00");
        double R;
        System.out.println("Enter Radius:");
        R = scanner.nextDouble();
        final double PI = 3.14159;
        System.out.println("Area of the circle is: "+df.format(PI*R*R));
    }
}
```

Q-01-D-output:

```
Enter Radius:
7
Area of the circle is: 153.94
```

Q-02-code.

```java
package Q_02;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_02 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.00");
        float cm;
        System.out.print("Enter centimeter:");
        cm= scanner.nextFloat();
        float feet = cm/30;
        float inch = cm % 30 * 0.3937f;
        System.out.print(feet +"ft "+df.format(inch)+"in");
    }
}
```

Q-02-output:

```
Enter centimeter:2.54
0.08466666ft 1.00in
Process finished with exit code 0
```

Q-03-code.

```java
package Q_03;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_03 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.0");
        double C,F;
        System.out.println("Enter the Temperature in celsius:");
        C = scanner.nextDouble();
        F = (1.8*C)+32;
        System.out.println("Temperature is fahrenheit: " + df.format(F)+"f");
    }
}
```

Q-03-output:

```
Enter the Temperature in celsius:
56
Temperature is fahrenheit: 132.8f
```

Q-04-code.

```java
package Q_04;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_04 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.0");
        double weight;
        System.out.println("Enter your weight in pounds:");
        weight= scanner.nextDouble();

        System.out.println("you need " + df.format(weight*19)+ "calories per day");
    }
}
```

Q-04-output:

```
Enter your weight in pounds:
75
you need 1425.0calories per day
```

Q-05-code.

```java
package Q_05;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_05 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.0");
        double C,F;
        System.out.println("Enter the Temperature in Fahrenheit:");
        F= scanner.nextDouble();
        C= (F-32)*5/9;
        System.out.println("Temperature is fahrenheit: " + df.format(C)+"c");
    }
}
```

Q-05-output:

```
Enter the Temperature in Fahrenheit:
76
Temperature is fahrenheit: 24.4c
```

Q-06-code.

```
package Q_06;

import java.time.Year;
import java.util.Scanner;

public class Q_06 {
    public static void main(String[] args) {
        Scanner scanner =new Scanner(System.in);
        int currentYear = Year.now().getValue();
        System.out.print("Enter the year you were born: ");
        int birthYear = scanner.nextInt();
        int age = currentYear - birthYear;
        System.out.println("You were born in " + birthYear + " and will be (are) " + age
+ " this year.");
    }
}
```

Q-06-output:

```
Enter the year you were born: 2001
You were born in 2001 and will be (are) 24 this year.
```

Q-07-code.

```java
package Q_07;

import java.util.Scanner;

public class Q_07 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter your weight in kg: ");
        int weight = scanner.nextInt();
        System.out.print("Enter your height in cm: ");
        int height = scanner.nextInt();
        double bmi = weight / Math.pow((height / 100.0), 2);
        if (bmi >= 20 && bmi <= 25) {
            System.out.println("Your BMI is in the normal range.");
        } else {
            System.out.println("Your BMI is outside the normal range.");
        }
    }
}
```

Q-07-output:

```
Enter your weight in kg: 65
Enter your height in cm: 165
Your BMI is in the normal range.
```

Q-08-code.

```java
package Q_08;

import java.util.Scanner;

public class Q_08 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        final double PI = 3.14;
        System.out.print("Enter the radius of the sphere: ");
        double radius = scanner.nextDouble();
        double volume = (4.0 / 3.0) * PI * Math.pow(radius, 3);
        System.out.printf("The volume of the sphere is: %.2f%n", volume);




    }
}
```

Q-08-output:

```
Enter the radius of the sphere: 7
The volume of the sphere is: 1436.03

Process finished with exit code 0
```

Q-09-code.

```java
package Q_09;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_09 {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.00");
        double P,R,N;
        System.out.print("Enter the amount: ");
        P = scanner.nextDouble();
        System.out.print("Enter the interest rate: ");
        R= scanner.nextDouble();
        System.out.print("Enter the number of years: ");
        N = scanner.nextDouble();
        double TotalAmount = (P * Math.pow((1+(R/100)),N));
        double TotalInterest = TotalAmount - P;
        System.out.println("Total Interest Of " + N + "years is: " +
df.format(TotalInterest));
        System.out.println("Total Amount Of After" + N + "years is: " +
df.format(TotalAmount));
    }
}
```

Q-09-output:

```
Enter the amount: 150000
Enter the interest rate: 2
Enter the number of years: 4
Total Interest Of 4.0years is: 12364.82
Total Amount Of After4.0years is: 162364.82
```

Q-09-code.

```java
package Q_10;

import java.text.DecimalFormat;
import java.util.Scanner;

public class Q_10 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        DecimalFormat df = new DecimalFormat("0.000");

        System.out.print("Enter loan amount: ");
        double loanAmount = input.nextDouble();

        System.out.print("Enter annual interest rate: ");
        double annualInterestRate = input.nextDouble();

        System.out.print("Enter loan period in years: ");
        int loanPeriod = input.nextInt();

        final int MONTHS_IN_YEAR = 12;

        double monthlyInterestRate = annualInterestRate / 100.0 / MONTHS_IN_YEAR;



        int numberOfPayments = loanPeriod * MONTHS_IN_YEAR;

        double monthlyPayment = (loanAmount * monthlyInterestRate) /
                (1 - Math.pow(1 / (1 + monthlyInterestRate), numberOfPayments));



        double totalPayment = monthlyPayment * numberOfPayments;



        System.out.println("Monthly Payment:" +df.format(monthlyPayment)+"Rs");
        System.out.print("Total Payment:"+df.format(totalPayment)+"Rs");



    }
```

```
}
```

Q-10-output:

```
Enter loan amount: 10000
Enter annual interest rate: 3.4
Enter loan period in years: 4
Monthly Payment:223.116Rs
Total Payment:10709.547Rs
Process finished with exit code 0
```