

```
public class Divisors {  
    public static void main (String[] args) {  
  
        int number = Integer.parseInt(args[0]);  
  
        for (int i = 1; i <= number; i++) {  
            if (number % i == 0) {  
                System.out.println(i);  
            }  
        }  
    }  
}
```

```
public class Reverse {  
    public static void main (String[] args){  
        String str = args[0];  
  
        for (int i = str.length() - 1; i >= 0; i--) {  
            System.out.print(str.charAt(i));  
        }  
  
        System.out.println(" "); // add a new line  
  
        // if str.length-1 is odd - making sure the "first middle"  
char will be printed  
        int middleCharIndex = (int)(Math.floor((str.length() - 1)/  
2));  
  
        System.out.println(str.charAt(middleCharIndex));  
    }  
}
```

```
public class InOrder {  
    public static void main (String[] args) {  
  
        int num = (int)(Math.random() * 10);  
        int temp = 0; // will storage the old value of num  
  
        do {  
            System.out.print(num + " ");  
            temp = num;  
            num = (int)(Math.random() * 10);  
        }  
        while (num > temp);  
  
    }  
}
```

```

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

        int N = Integer.parseInt(args[0]);
        String isPerfect = N + " is a perfect number since 24 = 1";
        int check = 1; // to validate later if N is indeed perfect. 1
is already a divisor

        for (int i = 2; i < N; i++) {
            if (N % i == 0) {
                isPerfect = isPerfect + " + " + i;
                check += i;
            }
        }

        if (check == N) {
            System.out.println(isPerfect);
        } else {
            System.out.println(N + " is not a perfect number");
        }

    }
}

```

```

public class DamkaBoard {
    public static void main(String[] args) {
        int n = Integer.parseInt(args[0]);

        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                System.out.print("* ");
            }

            System.out.println(" ");

            if ((i+1) % 2 != 0) { // The * is first when the line
number is odd. i starts in 0 so added +1
                System.out.print(" ");
            }
        }
    }
}

```

```

public class OneOfEachStats {
    public static void main (String[] args) {
        // Gets the two command-line arguments
        int T = Integer.parseInt(args[0]);
        int seed = Integer.parseInt(args[1]);
        // Initailizes a random numbers generator with the given seed
value
        Random generator = new Random(seed);
        double probabiltiy = generator.nextDouble();

        double totalChildren = 0.0; // To calculate the avg later

        int twoChildrenFamilies = 0;
        int threeChildrenFamilies = 0;
        int fourAndMoreChildrenFamilies = 0;
        int mostCommonNumberOFChildren = 0;

        boolean isGirl = true;
        boolean comparison = true;
        int childCountForOneFamily = 1;

        for (int i = 0; i < T; i++) {

            if (probabiltiy >= 0.5) {
                isGirl = true;
            } else {
                isGirl = false;
            }

            comparison = isGirl;

            while (isGirl == comparison) {

```

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        probabiltiy = Math.random();

        if (probabiltiy >= 0.5) {
            isGirl = true;
        } else {
            isGirl = false;
        }

        childCountForOneFamily++;

    }

    totalChildren += childCountForOneFamily;

    if (childCountForOneFamily == 2) {
        twoChildrenFamilies++;
    } else if (childCountForOneFamily == 3) {
        threeChildrenFamilies++;
    } else if (childCountForOneFamily == 4) {
        fourAndMoreChildrenFamilies++;
    }

    childCountForOneFamily = 1; // Must initialized at the
end of each test

}

double avgChildrenInAllFamilies = totalChildren / T;

System.out.println("Average: " + avgChildrenInAllFamilies + "
children to get at least one of each gender.");

```

```
        System.out.println("Number of families with 2 children: " +  
twoChildrenFamilies);
```

```
        System.out.println("Number of families with 3 children: " +  
threeChildrenFamilies);
```

```
        System.out.println("Number of families with 4 or more  
children: " + fourAndMoreChildrenFamilies);
```

```
        String commonNumber; // Temp variable  
        if (twoChildrenFamilies >= threeChildrenFamilies) {  
            if (twoChildrenFamilies >= fourAndMoreChildrenFamilies)  
{  
                commonNumber = "2";  
            } else {  
                commonNumber = "4 or more";  
            }  
        } else {  
            if (threeChildrenFamilies >=  
fourAndMoreChildrenFamilies) {  
                commonNumber = "3";  
            } else {  
                commonNumber = "4 or more";  
            }  
        }  
    }
```

```
        System.out.println("The most common number of children is " +  
commonNumber + ". ");
```

```
    }  
}
```