

```
public class Divisors {  
    public static void main (String[] args) {  
        int a = Integer.parseInt(args[0]);  
        int i = 1;  
        while(i <= a){  
            //Check if i is divides of a  
            if(a % i == 0){  
                System.out.println(i);  
            }  
            i++;  
        }  
    }  
}
```

```
public class Reverse {  
    public static void main (String[] args){  
        String str = args[0];  
        String reverseString = "";  
        int i = str.length() - 1;  
        //A loop in which we will run on all str's chars and build a  
        reverse String  
        while(i >= 0){  
            reverseString = reverseString + str.charAt(i);  
            i--;  
        }  
        System.out.println(reverseString);  
        System.out.println("The middle character is " +  
        reverseString.charAt(reverseString.length() / 2));  
    }  
}
```

```
public class InOrder {  
    public static void main (String[] args) {  
        //Generate the first random number  
        int random1 = (int)(Math.random() * 10);  
        //Initialize a variable to save the previous random number  
        int check = 0;  
        //A loop in which we generate random numbers until the  
        //previous number is greater than the new one  
        while(check <= random1){  
            System.out.print(random1 + " ");  
            check = random1;  
            random1 = (int)(Math.random() * 10);  
        }  
    }  
}
```

```

public class Perfect {
    public static void main (String[] args) {
        int N = Integer.parseInt(args[0]);
        int sum = 0;
        //Initialize a String for the output.
        String ans = " is a perfect number since " + N + " = 1";
        //A loop in which we will run on all the numbers from 2 to N
        for(int i = 2; i < N; i++){
            ///Check if i divides of N
            if(N % i == 0){
                // Add i to the String output
                ans = ans + " + " + i ;
                sum += i;
            }
        }
        // Check if N is perfect
        if((sum + 1) == N){
            System.out.println(N + ans);
        } 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]);
        String stars = "";
        //A loop that build the row
        //and make sure that we donwt have an extra space at the end
        for(int i = 0; i < n-1; i++){
            stars = stars + "* ";
        }
        //without space at the and of the row
        stars = stars + "*";
        //A loop that build the board by build a n rows
        //and make sure that if the row is odd we have extra space at
        the beginning
        for(int j = 0; j < n; j++){
            if(j % 2 != 0){
                System.out.print(" ");
                System.out.println(stars);
            } else{
                System.out.println(stars + " ");
            }
        }
    }
}

```

```

public class OneOfEach {
    public static void main (String[] args) {
        String children = "";
        int sum = 0;
        //A loop in which we generate children until we have at least
        one of each
        while((children.indexOf('g') == -1) || (children.indexOf('b')
        == -1)){
            if(Math.random() < 0.5){
                children = children + "g ";
            } else {
                children = children + "b ";
            }
            sum++;
        }
        System.out.println(children);
        System.out.println("You made it... and you now have " + sum +
        " children.");
    }
}

```

```

public class OneOfEachStats1 {
    public static void main (String[] args) {
        int T = Integer.parseInt(args[0]);
        String children = "";
        double totalSum = 0;
        int two = 0;
        int three = 0;
        int four = 0;
        String mostCommon = "";
        //A loop in which we generate the test T times.
        for(int i = 0; i < T; i++){
            int sumTemp = 0;
            //A loop in which we generate children until we have at
            //least one of each
            while((children.indexOf('g') == -1) ||
                (children.indexOf('b') == -1)){
                if(Math.random() < 0.5){
                    children = children + "g ";
                } else {
                    children = children + "b ";
                }
                sumTemp++;
                totalSum++;
            }
            //Add the result to a track variables and checks what is
            //the most common number of children
            if(sumTemp == 2){
                two++;
                if(two > three && two > four){
                    mostCommon = "The most common number of children
                    is 2.";
                }
            } else if(sumTemp == 3){
                three++;
            }
        }
    }
}

```

```

        if(three > two && three > four){
            mostCommon = "The most common number of children
            is 3.";
        }
    } else if(sumTemp >= 4){
        four++;
        if(four > three && four > two){
            mostCommon = "The most common number of children
            is 4 or more.";
        }
    }
    children = "";
}

//Calculate the average
double average = (totalSum / T);
//Print the results
System.out.println("Average: " + average + " children to get
at least one of each gender.");
System.out.println("Number of families with 2 children: " +
two);
System.out.println("Number of families with 3 children: " +
three);
System.out.println("Number of families with 4 or more
children: " + four);
System.out.println(mostCommon);
}
}

```



```

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);

        /// In the previous version of this program, you used a
        statement like:
        /// double rnd = Math.random();
        /// Where "rnd" is the variable that stores the generated
        random value.
        /// In this version of the program, replace this statement
        with:
        /// double rnd = generator.nextDouble();
        /// This statement will generate a random value in the range
        [0,1),
        /// just like you had in the previous version, except that
        the
        /// randomization will be based on the given seed.
        /// This is the only change that you have to do in the
        program.

        int T = Integer.parseInt(args[0]);
        String children = "";
        double totalSum = 0;
        int two = 0;
        int three = 0;
        int four = 0;
        String mostCommon = "";
        //A loop in which we generate the test T times.
        for(int i = 0; i < T; i++){

```

```

int sumTemp = 0;
//A loop in which we generate children until we have at
least one of each
while((children.indexOf('g') == -1) ||
(children.indexOf('b') == -1)){
    if(generator.nextDouble() < 0.5){
        children = children + "g ";
    } else {
        children = children + "b ";
    }
    sumTemp++;
    totalSum++;
}
//Add the result to a track variables and checks what is
the most common number of children
if(sumTemp == 2){
    two++;
    if(two > three && two > four){
        mostCommon = "The most common number of children
is 2.";
    }
} else if(sumTemp == 3){
    three++;
    if(three > two && three > four){
        mostCommon = "The most common number of children
is 3.";
    }
} else if(sumTemp >= 4){
    four++;
    if(four > three && four > two){
        mostCommon = "The most common number of children
is 4 or more.";
    }
}
}

```

```
        children = "";
    }
    //Calculate the average
    double average = (totalSum / T);
    //Print the results
    System.out.println("Average: " + average + " children to get
    at least one of each gender.");
    System.out.println("Number of families with 2 children: " +
    two);
    System.out.println("Number of families with 3 children: " +
    three);
    System.out.println("Number of families with 4 or more
    children: " + four);
    System.out.println(mostCommon);
}
}
```