```java
/**
 *  Gets a command-line argument (int), and prints all the divisors of the
given number.
 */
public class Divisors {
    public static void main (String[] args) {
        int num = Integer.parseInt(args[0]);
        for (int d = 1 ; d <= num ; d++) {
            if (num % d == 0) {
                System.out.println(d);
            }
        }
    }
}
```

```java
/**
 * Prints a given string, backward. Then prints the middle character in the
string.
 * The program expects to get one command-line argument: A string.
 */
public class Reverse {
    public static void main (String[] args){
        String str = args[0];
        int length = str.length();
        String reverse = "";
        for (int i = length-1 ; i >= 0 ; i--) {
            reverse = reverse + str.charAt(i);
        }
        System.out.println(reverse);
        char middle = reverse.charAt(length / 2);
        System.out.println("The middle character is " + middle);
    }
}
```

```java
/**
 *  Generates and prints random integers in the range [0,10),
 *  as long as they form a non-decreasing sequence.
 */
public class InOrder {
    public static void main (String[] args) {
        int random1 = (int) (Math.random() * 11);
        String seq = "" + random1;
        int random2;
        do {
            random2 = (int) (Math.random() * 11);
            if (random2 < random1){
                break;
            }
            seq = seq + " " + random2;
            random1 = random2;
        } while (random1 >= random2);
        System.out.println(seq);
    }
}
```

```java
/**
 *  Gets a command-line argument n (int), and prints an n-by-n damka board.
 */
public class DamkaBoard {
    public static void main(String[] args) {
        int n = Integer.parseInt(args[0]);
        String line = "";
        for (int i = 1 ; i <= n ; i++) {
            line = "";
            for (int j = 1 ; j <= n ; j++) {
                if (i % 2 == 0) {
                    line = line + " *";
                } else {
                    line = line + "* ";
                }
            }
            System.out.println(line);
        }
    }
}
```

```java
/**
 *  Gets a command-line argument (int), and chekcs if the given number is
perfect.
 */
public class Perfect {
    public static void main (String[] args) {
        int N = Integer.parseInt(args[0]);
        int sum = 0;
        String eq = " = 1";
        for (int d = 1 ; d < N ; d++) {
            if (N % d == 0) {
                sum = sum + d;
                if (d != 1){
                    eq = eq + " + " + d;
                }
            }
        }
        if (N == sum) {
            System.out.println(N + " is a perfect number since " + N + eq);
        } else {
            System.out.println(N + " is not a perfect number");
        }
    }
}
```

```java
import java.util.Random;
/**
 *  Computes some statistics about families in which the parents decide
 *  to have children until they have at least one child of each gender.
 *  The program expects to get two command-line arguments: an int value
 *  that determines how many families to simulate, and an int value
 *  that serves as the seed of the random numbers generated by the program.
 *  Example usage: % java OneOfEachStats 1000 1
 */
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.
        double sum = 0;
        int count2 = 0;
        int count3 = 0;
        int count4 = 0;
        for (int i = 0; i < T ; i++) {
            int num = 0;
            double random;
            boolean isGirl = false;
            boolean isBoy = false;
            String children = "";
            do {
                random  = (generator.nextDouble());
                if (random < 0.5) {
                    isBoy = true;
                    children = children + "b ";
                    num++;
                } else {
                    if (random > 0.5) {
                        isGirl = true;
                        children = children + "g ";
                        num++;
                    }
                }
            } while (isGirl != true || isBoy != true);
            if (num == 2) {
                count2++;
            } else {
```

```
                if (num == 3) {
                    count3++;
                } else {
                        count4++;
                }
            }
            sum = sum + num;
        }
        double avg = sum / T;
        System.out.println("Average: " + avg + " children to get at least one
of each gender.");
        System.out.println("Number of families with 2 children: " + count2);
        System.out.println("Number of families with 3 children: " + count3);
        System.out.println("Number of families with 4 or more children: " +
count4);
        int mostCommon = 0;
        if (count2 >= count3 && count2 >= count4) {
            System.out.println("The most common number of children is 2.");
        } else {
            if (count3 >= count2 && count3 >= count4) {
                System.out.println("The most common number of children is 3.");
            } else {
                System.out.println("The most common number of children is 4 or
more");
            }
        }
    }
}
```