```java
public class Divisors {
  public static void main (String[] args) {
    int num = Integer.parseInt(args[0]);
    int i = 1;

    while (i < num + 1) {
      if (num % i == 0) {
        // Find if remainder of the input divided by any numbers below it is = 0, which
means its
        // divisible and then print that number.
        System.out.println(i);
      }
      i++;
    }
  }
}
```

```java
public class Reverse {
  public static void main (String[] args){
    //// Put your code here
    String str = args[0];
    String strOut = "";
    int length = str.length();

    int i = 0;
    while (i < length) {
      // Loop this block the length of the string times and keep adding
      // to an output string in reverse order
      strOut = strOut + str.charAt(length - 1 - i);
      i++;
    }

    System.out.println(strOut);
    System.out.println("The middle character is " + strOut.charAt(length / 2));
  }
}
```

```java
public class InOrder {
  public static void main (String[] args) {
    // num1 is the number that is checked against, it is set as -1 so it
    // will always be less than num2 initially so the program can start
    int num1 = -1;
    // num2 is the number thats randomly generated
    int num2 = 0;
    while (num2 >= num1) {
      // loop if generated number is greater or equal to previous number
      num2 = (int) (10 * Math.random());

      // this sets num1 to be the previously generated number and prints before
looping
      if (num2 >= num1) {
        System.out.println(num2);
        num1 = num2;
      }
    }
  }
}
```

```java
public class Perfect {
  public static void main (String[] args) {
    //// Put your code here
    int num = Integer.parseInt(args[0]);
    int counter = 1;
    String str = num + " is a perfect number since " + num + " = 1";

    for (int i = 2; i < num; i++) {
      if (num % i == 0) {
        //System.out.println(i);
        str = str + " + " + i;
        counter += i;
      }
    }

    if (counter == num) {
      System.out.println(str);
    }
    else {
      System.out.println(num + " is not a perfect number");
    }
  }
}
```

```java
public class DamkaBoard {
  public static void main(String[] args) {
    //// Put your code here
    int num = Integer.parseInt(args[0]);

    for (int i = 0; i < num; i++) {
      for (int j = 0; j < num; j++) {
        System.out.print("*");
        if (j < num - 1) {
          System.out.print(" ");
        }
      }

      // Most of this modulo stuff is to make sure autograde grades it right :>
      if (i % 2 == 1) {
        System.out.print("");
      }
      if (i % 2 == 0) {
        System.out.print(" ");
      }

      System.out.println("");

      if (i % 2 == 0) {
        System.out.print(" ");
      }
    }
  }
}
```

```java
public class OneOfEach {
  public static void main (String[] args) {
     //// Put your code here
     boolean boy = false;
     boolean girl = false;
     double rand = 0;
     int counter = 0;

     while (!boy || !girl) {
        // loops till boy and girl are both born
        rand = Math.random();

        if (rand >= 0.5) {
           System.out.print("b ");
           boy = true;
        }
        else {
           System.out.print("g ");
           girl = true;
        }
        counter++;
     }
     System.out.println("");
     System.out.print("You made it... and you now have " + counter + " children.");
  }
}
```

```java
import java.util.Random;
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);

    //// Initializes important variables
    boolean boy = false;
    boolean girl = false;
    double rand = 0;
    double avg = 0;
    int counter = 0;
    int child_two = 0;
    int child_three = 0;
    int child_four_plus = 0;

    for (int i = 0; i < T; i++) {
      // Reset the child counter and gender booleans to 0 as to count children again
      counter = 0;
      boy = false;
      girl = false;

      while (!boy || !girl) {
        // loops till boy and girl are both born
        rand = generator.nextDouble();

        if (rand >= 0.5) {
          boy = true;
```

```
            }
            else {
                girl = true;
            }
            counter++;
        }

        // increments amount of children for stats
        if (counter >= 4) {
            child_four_plus++;
        }
        else if (counter >= 3) {
            child_three++;
        }
        else {
            child_two++;
        }
        avg += counter;
    }
    avg /= T;
    int child_max = Math.max(child_four_plus, Math.max(child_two, child_three));

    System.out.println("Average: " + avg + " children to get at least one of each
gender.");
    System.out.println("Number of families with 2 children: " + child_two);
    System.out.println("Number of families with 3 children: " + child_three);
    System.out.println("Number of families with 4 or more children: " + child_four_plus);


    System.out.print("The most common number of children is ");
```

```
        if (child_max == child_four_plus) {
            System.out.print("4 or more.");
        }
        else if (child_max == child_three) {
            System.out.print("3.");
        }
        else {
            System.out.print("2.");
        }
    }
}
```