

## Divisors

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



Perfect

```
public class Perfect {  
    public static void main (String[] args) {  
        int num = Integer.parseInt(args[0]);  
        int sum = 0;  
        boolean isP = true;  
        for(int d = 1; d < num; d++) {  
            if (num%d == 0) {  
                sum = sum + d;  
            }  
        }  
        if (num == sum) {  
            System.out.print (num + " is a perfect number since " +  
                               num + " = 1");  
            for(int d = 2; d < num; d++) {  
                if (num%d == 0) {  
                    System.out.print (" + " + d);  
                }  
            }  
        }  
        else {  
            System.out.println (num + " is not a perfect number");  
        }  
    }  
}
```

DamkaBoard

```
public class DamkaBoard {  
    public static void main(String[] args) {  
        int size = Integer.parseInt(args[0]);  
        for (int r = 0; r < size; r++) {  
            if (r%2 == 0) {  
                for (int i = 0; i < size; i++) {  
                    System.out.print ("* ");  
                }  
            } else {  
                for (int j = 0; j < size; j++) {  
                    System.out.print (" *");  
                }  
            }  
            System.out.println();  
        }  
    }  
}
```

## One of Each

```
public class OneOfEach {  
    public static void main (String[] args) {  
        int cCount = 0;  
        boolean girl = false;  
        boolean boy = false;  
        boolean both = false;  
        while (!both) {  
            if (Math.random() > 0.5) {  
                boy = true;  
                System.out.print ("b ");  
            } else {  
                girl = true;  
                System.out.print ("g ");  
            }  
            cCount++;  
            if (boy && girl) {  
                both = true;  
            }  
        }  
        System.out.println ("\nYou made it... and you now have " +  
                               cCount + " children.");  
    }  
}
```

## OneOfEachStats1

```
public class OneOfEachStats1 {  
    public static void main (String[] args) {  
        int numOfFamilies = Integer.parseInt(args[0]);  
        int c2 = 0;  
        int c3 = 0;  
        int cMore = 0;  
        double avg = 0;  
        double avgC = 0;  
        for (int i = 0; i < numOfFamilies; i++) {  
            int cCount = 0;  
            boolean girl = false;  
            boolean boy = false;  
            boolean both = false;  
            while (!both) {  
                if (Math.random() > 0.5) {  
                    boy = true;  
                } else {  
                    girl = true;  
                }  
                cCount++;  
                if (boy && girl) {  
                    both = true;  
                }  
            }  
            avgC = avgC + cCount;  
            if (cCount == 2) {  
                c2++;  
            } else if (cCount == 3) {  
                c3++;  
            } else {
```

```

        cMore++;
    }
}
avg = (double)(avgC/numOfFamilies);
System.out.println ("Average: " + avg + " children to get at
                    least one of each gender.");
System.out.println ("Number of families with 2 children: " +
                    c2);
System.out.println ("Number of families with 3 children: " +
                    c3);
System.out.println ("Number of families with 4 or more
                    children: " + cMore);
if (c2 > cMore || c3 > cMore) {
    if (c2 > c3) {
        System.out.println ("The most common number of
                            children is 2.");
    } else {
        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.");
}
}
}

```

OneOfEachStats (Final)

```
import java.util.Random;

public class OneOfEachStats {
    public static void main (String[] args) {
        int T = Integer.parseInt(args[0]);
        int seed = Integer.parseInt(args[1]);
        Random generator = new Random(seed);
        int c2 = 0;
        int c3 = 0;
        int cMore = 0;
        double avg = 0;
        double avgC = 0;
        for (int i = 0; i < T; i++) {
            int cCount = 0;
            boolean girl = false;
            boolean boy = false;
            boolean both = false;
            while (!both) {
                if (generator.nextDouble() > 0.5) {
                    boy = true;
                } else {
                    girl = true;
                }
                cCount++;
                if (boy && girl) {
                    both = true;
                }
            }
            avgC = avgC + cCount;
            if (cCount == 2) {
```



```

        c2++;
    } else if (cCount == 3) {
        c3++;
    } else {
        cMore++;
    }
}
avg = (double)(avgC/T);
System.out.println ("Average: " + avg + " children to get at
                    least one of each gender.");
System.out.println ("Number of families with 2 children: " +
                    c2);
System.out.println ("Number of families with 3 children: " +
                    c3);
System.out.println ("Number of families with 4 or more
                    children: " + cMore);
if (c2 > cMore || c3 > cMore) {
    if (c2 > c3) {
        System.out.println ("The most common number of
                            children is 2.");
    } else {
        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.");
}
}
}

```