

```

1  import java.util.Random;
2
3  public class OneOfEachStats {
4      public static void main(String[] args) {
5
6          double T = Integer.parseInt(args[0]);
7          int seed = Integer.parseInt(args[1]);
8
9          int countT = 0;
10         int TwoChildren = 0;
11         int ThreeChildren = 0;
12         int FourOrMore = 0;
13
14         int max = 0;
15         String MostCommon = "";
16
17         boolean GirlBorn = false;
18         boolean BoyBorn = false;
19
20         Random generator = new Random(seed);
21
22         for(int i = 0; i < T; i++) {
23             GirlBorn = false;
24             BoyBorn = false;
25             int count = 0;
26
27             while(!(BoyBorn && GirlBorn)) {
28                 if (generator.nextDouble() <= 0.5) {
29                     GirlBorn = true;
30
31                 }
32                 else {
33                     BoyBorn = true;
34                 }
35                 count++;
36             }
37             countT += count;
38
39             if (count == 2) {
40                 TwoChildren++;
41             } else if (count == 3) {
42                 ThreeChildren++;
43             } else {
44                 FourOrMore++;
45             }
46             if (count > max) {
47                 max = count;
48             }
49
50             if (TwoChildren >= ThreeChildren && TwoChildren >= FourOrMore) {
51                 MostCommon = "2.";
52             } else if (ThreeChildren >= FourOrMore) {
53                 MostCommon = "3.";
54             } else {
55                 MostCommon = "4 or more.";
56             }
57
58         }
59         System.out.println("Average: " + (countT / T) + " children to get at least
60         one of each gender.");
61         System.out.println("Number of families with 2 children: " + TwoChildren);
62         System.out.println("Number of families with 3 children: " + ThreeChildren);
63         System.out.println("Number of families with 4 or more children: " + FourOrMore
64         );
65         System.out.println("The most common number of children is " + MostCommon);
66     }
67 }

```

```
1  public class Perfect {
2      public static void main(String[] args) {
3          int x = Integer.parseInt(args[0]);
4
5          int num = 1;
6          int sum = 0;
7          String divisors = x + " is a perfect number since " + x + " = ";
8          while (num <= x / 2) {
9              if (x % num == 0) {
10                 sum += num;
11                 divisors += num;
12                 if (num < x / 2) {
13                     divisors += " + ";
14                 }
15             }
16             num++;
17         }
18         if (sum == x) {
19             System.out.println(divisors);
20         }
21         else {
22             System.out.println(x + " is not perfect number");
23         }
24     }
25 }
26
27
28
```

```
1 public class DamkaBoard {
2     public static void main(String[] args) {
3
4         int BoardSize = Integer.parseInt(args[0]);
5
6         for (int i = 0; i < BoardSize; i++) {
7             for (int j = 0; j < BoardSize; j++) {
8                 if (i % 2 == 0) {
9                     System.out.print("* ");
10                } else {
11                    System.out.print(" *");
12                }
13            }
14            System.out.println();
15        }
16    }
17 }
```

```
1  public class Divisors {
2      public static void main(String[] args) {
3          int x = Integer.parseInt(args[0]);
4
5          for (int num = 1; num <= x; num++) {
6              if (x % num == 0) {
7                  System.out.println(num);
8              }
9          }
10     }
11 }
12
```

```
1 public class InOrder {
2     public static void main(String[] args) {
3
4         int x = (int)(10.0 * Math.random());
5         System.out.print( x + " ");
6         int y = (int)(10.0 * Math.random());
7
8
9         while (x <= y) {
10             System.out.print( y + " ");
11             x = y;
12             y = (int)(10.0 * Math.random());
13         }
14     }
15 }
16
17
```

```
1  public class Reverse {
2      public static void main(String[] args) {
3
4          String s = args[0];
5          int length = s.length();
6          int i = s.length() - 1;
7
8          while(i >= 0) {
9              System.out.print(s.charAt(i));
10             i--;
11         }
12         int middleChar = (length - 1) / 2;
13         System.out.println("\nThe middle character is " + s.charAt(middleChar));
14     }
15 }
```