Divisors

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

		for (int i = 1 ; i < (a + 1) ; i++) {
			if (a % i == 0) {
			System.out.println(i);
			}
		 }
	 }
}
```

Reverse

```
public class Reverse {
      public static void main (String[] args) {
            String s = args[0];
            int length = s.length();

            for (int i = (length - 1) ; i >= 0 ; i--) {
                  System.out.print(s.charAt(i));
            }
                  System.out.println();
                  System.out.println("The middle character is " +
                                          s.charAt(((length + 1) / 2) - 1));
     }
}
```

InOrder

```
public class InOrder {
	public static void main (String[] args) {
		int random1 = (int) (10 * Math.random());
		int random2;
		System.out.print(random1 + " ");

		 do {
			random2 = (int) (10 * Math.random());
			if (random2 >= random1) {
				System.out.print(random2 + " ");
				random1 = random2;
			}
		 } while (random2 >= random1);

		 System.out.println();
	 }
}
```

Perfect

```
public class Perfect {
	public static void main (String[] args) {
		int a = Integer.parseInt(args[0]);
		int sum = 1;
		String b = "";

		for (int i = 2 ; i < a ; i++) {
			if (a % i == 0) {
			    b += (" + " + i);
			    sum += i;
			}
		}
		if (sum == a) {
		   System.out.println(a + " is a perfect number since " + a + " = 1" + b);
		} else {
		   System.out.println(a + " is not a perfect number");
		}
	}
}
```

DamkaBoard

```
public class DamkaBoard {
	public static void main (String[] args) {
		int a = Integer.parseInt(args[0]);
		String b = "";
		String c = "";

		for (int i = 1 ; i < (a + 1) ; i++) {
			b += "* ";
			c += " *";
		}
		for (int i = 1 ; i < (a + 1) ; i++) {
			if (i % 2 == 0) {
			 System.out.println(c);
			} else {
			 System.out.println(b);
			}
		}
	}
}
```

OneOfEach

```
public class OneOfEach {
      public static void main (String[] args) {
            boolean isGirl = false;
            boolean isBoy = false;
            double random;
            int sum = 0;

            do {
                  random = Math.random();
                  if (random < 0.5) {
                      isBoy = true;
                      sum += 1;
                      System.out.print("b");
                  }
                  else {
                       isGirl = true;
                       sum += 1;
                       System.out.print("g");
                  }
                  if (! (isGirl && isBoy)) {
                     System.out.print(" ");
                  }
             } while (! (isGirl && isBoy));

            System.out.println();
            System.out.println("You made it... and you now have " +
                                    sum + " children.");
    }
}
```

OneOfEachStats1

```
public class OneOfEachStats1 {
	public static void main (String[] args) {
		int trials = Integer.parseInt(args[0]);
		boolean isGirl = false;
		boolean isBoy = false;
		double random;
		int sum = 0;
		int sumTotalChild = 0;
		int count2 = 0;
		int count3 = 0;
		int count4 = 0;

		for (int i = 1 ; i < (trials + 1) ; i++) {
			sum = 0;                    // Reset variables before the inner loop
			isGirl = false;
			isBoy = false;
		   do {                         // inner loop for a single family
		   random = Math.random();
		      if (random < 0.5) {
		         isBoy = true;
		         sum += 1;
		      } else {
		         isGirl = true;
		         sum += 1;
		      }
		    } while (! (isGirl && isBoy));

		   sumTotalChild += sum;        // Adding the current child count to the total sum
		   switch (sum) {               // Adding 1 to the relevant family type count
		   case 2: count2 += 1;
		           break;
		   case 3: count3 += 1;
		           break;
		   default: count4 += 1;
		   }
		}
		System.out.println("Average: " + ( (double) sumTotalChild / trials) +
		                   " 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 = Math.max(count2 , (Math.max(count3 , count4)));
		System.out.print("The most common number of children is ");
		  if (mostCommon == count2) {
		     System.out.print("2.");
		  } else if (mostCommon == count3) {
		     System.out.print("3.");
		  } else {
		     System.out.print("4 or more.");
```

```
        }
    }
}
```

OneOfEachStats

```
public class OneOfEachStats {
      public static void main (String[] args) {
            int trials = Integer.parseInt(args[0]);
            int seed = Integer.parseInt(args[1]);
            Random generator = new Random(seed);
            boolean isGirl = false;
            boolean isBoy = false;
            double random;
            int sum = 0;
            int sumTotalChild = 0;
            int count2 = 0;
            int count3 = 0;
            int count4 = 0;

            for (int i = 1 ; i < (trials + 1) ; i++) {
                  sum = 0;                    // Reset variables before the inner loop
                  isGirl = false;
                  isBoy = false;
               do {                           // inner loop for a single family
               random = generator.nextDouble();
                  if (random < 0.5) {
                     isBoy = true;
                     sum += 1;
                  } else {
                     isGirl = true;
                     sum += 1;
                  }
                } while (! (isGirl && isBoy));

               sumTotalChild += sum;          // Adding the current child count to the total sum
               switch (sum) {                 // Adding 1 to the relevant family type count
               case 2: count2 += 1;
                           break;
               case 3: count3 += 1;
                           break;
               default: count4 += 1;
               }
            }
            System.out.println("Average: " + ( (double) sumTotalChild / trials) +
                                    " 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 = Math.max(count2 , (Math.max(count3 , count4)));
            System.out.print("The most common number of children is ");
              if (mostCommon == count2) {
                 System.out.print("2.");
              } else if (mostCommon == count3) {
                 System.out.print("3.");
```

```
            } else {
               System.out.print("4 or more.");
            }
    }
}
```