Divisors

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

Reverse

```
public class Reverse {
	public static void main (String[] args){
		String s = args[0];
		int middle = s.length() / 2;
		char midChar;
		if(s.length() % 2 == 0){
			midChar = s.charAt(middle-1);
		}
		else {
			midChar = s.charAt(middle);
		}
		for(int i = s.length() - 1; i >= 0 ; i--){
			System.out.print(s.charAt(i));
		}
		System.out.println();
		System.out.println("The middle character is " +
midChar);
	}
}
```

InOrder

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

DamkaBoard

```
public class DamkaBoard {
	public static void main(String[] args) {
		int num = Integer.parseInt(args[0]);
		for(int row = 1; row <= num; row++){
			for(int col = 1; col <= num; col++){
				if(row % 2 == 0){
					System.out.print(" *");
				}
				else{
					System.out.print("* ");
				}
			}
			System.out.println();
		}
	}
}
```

Perfect

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

OneOfEachStats

```
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);

            int numOf2Children = 0;

            int numOf3Children = 0;

            int numOf4Children = 0;

            int countOfChildren = 0;

            int countTotal = 0;

            double rnd = generator.nextDouble();

            for(int i = 0; i < T; i++){

                  countOfChildren = 0;

                  if(rnd >= 0.5){

                        while(rnd >= 0.5){

                              countOfChildren++;

                              countTotal++;

                              rnd = generator.nextDouble();

                        }

                        countOfChildren++;

                        countTotal++;

                  }

                  else{

                        while(rnd < 0.5){

                              countOfChildren++;
```

```
                        countTotal++;
                        rnd = generator.nextDouble();
                    }
                    countOfChildren++;
                    countTotal++;
                }
                if(countOfChildren == 2){
                    numOf2Children++;
                }
                if(countOfChildren == 3){
                    numOf3Children++;
                }
                if(countOfChildren >=4){
                    numOf4Children++;
                }
            }
            System.out.println("Average: " + (int)(countTotal/T)
+ " children to get at least one of each gender.");
            System.out.println("Number of families with 2
children: " + numOf2Children);
            System.out.println("Number of families with 3
children: " + numOf3Children);
            System.out.println("Number of families with 4 or
more children: " + numOf4Children);
            if(numOf2Children >= numOf3Children){
                if(numOf2Children >= numOf4Children){
                    System.out.println("The most common
number of children is 2");
                }
                else{
                    System.out.println("The most common
number of children is 4 or more");
```

```
                }
            }
            else{
                if(numOf3Children >= numOf4Children){
                    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");
                }
            }
      }
}
```