1. Divisors

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

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

2. Reverse

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

		for (int i= n-1; i >= 0; i= i-1 ){
			char a = x.charAt(i);
			xOut= xOut + a;
		}
		System.out.println(xOut);
	System.out.println("The middle character is " + x.charAt( (n-1) / 2));

	}
}
```

3. Lucky streak

```
public class InOrder {
	public static void main (String[] args) {
		int a = (int) ((Math.random() * 10));
		int b = (int) ((Math.random() * 10));
		System.out.println(a);

		while ( b >= a){
			System.out.print(" "+b);
			a = b;
			b= (int) ((Math.random() * 10));

		}
	}
}
```

4. Perfect Numbers

```
public class Perfect {
	public static void main (String[] args) {
		int num = Integer.parseInt(args[0]);
		String answer = num +" is a perfect number since "+ num + " = 1" ;
		int sum = 1;


		for ( int i = 2; i < num; i++) {
			if (num % i == 0) {
				answer += " + " + i ;
				sum += i;

			}
		}

		if ( sum == num) {
			System.out.println ( answer );

		}

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

5. Damka Board

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

		for (int i = 0; i < n; i++) {
			for (int j = 0; j < n; j++ ){
				if (i % 2 == 0){
				System.out.print("* ");
			}
			else {
				System.out.print(" *");
			}
		}
		System.out.println();
		}

	}
}
```

6. One of Each

```
public class OneOfEach {
	public static void main (String[] args) {
		boolean girl = false;
		boolean boy = false;
		int sum = 0;

		while (girl == false || boy == false){
			double a = (Math.random() );
			if (a >= 0.5){
				girl = true;
				System.out.print("g ");

			}

			else {
				boy = true;
				System.out.print("b ");

			}
			sum += 1;
		}
		System.out.println(" ");
		System.out.println("You made it... and you now have "+sum+" children.");

	}
}
```

7. One of Each Stats

```
public class OneOfEachStats1 {
	public static void main (String[] args) {
		int t = Integer.parseInt(args[0]);
		int twochildren = 0;
		int threechildren = 0;
		int fourchildren = 0;
		double sumall = 0.0;
		double average = 0;
		String common ;

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

			boolean girl = false;
			boolean boy = false;
			int sum = 0;

			while (girl == false || boy == false){
				double a = (Math.random() );
				if (a >= 0.5){
					girl = true;

				}

				else {
					boy = true;

				}
				sum ++;
			}
			sumall += sum;
			if (sum == 2) {
				twochildren ++;
			}
			else if (sum == 3){
				threechildren ++;
			}
			else if (sum >= 4) {
				fourchildren ++;
			}


		}

	average = sumall / t;

	if (twochildren >= threechildren && twochildren >= fourchildren){
		common = "2.";
	}
	else if (threechildren >= twochildren && threechildren >= fourchildren){
		common = "3.";
```

```
        }
        else{
                common = "4 or more.";
        }



        System.out.println("Average: " +average+ " children to get at least one of each
        gender.");
        System.out.println("Number of families with 2 children: " +twochildren);
        System.out.println("Number of families with 3 children: " +threechildren);
        System.out.println("Number of families with 4 or more children: " +fourchildren);
        System.out.println("The most common number of children is " +common);

        }

}
```

8. One of Each Stats (final version)

```
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 twochildren = 0;
		int threechildren = 0;
		int fourchildren = 0;
		double sumall = 0.0;
		double average = 0;
		String common ;

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

			boolean girl = false;
			boolean boy = false;
			int sum = 0;

			while (girl == false || boy == false){
				double a = generator.nextDouble();
				if (a >= 0.5){
					girl = true;

				}

				else {
					boy = true;

				}
				sum ++;
			}
			sumall += sum;
			if (sum == 2) {
				twochildren ++;
			}
			else if (sum == 3){
				threechildren ++;
			}
			else if (sum >= 4) {
				fourchildren ++;
			}


		}

	average = sumall / t;
```

```
        if (twochildren >= threechildren && twochildren >= fourchildren){
                common = "2.";
        }
        else if (threechildren >= twochildren && threechildren >= fourchildren){
                common = "3.";
        }
        else{
                common = "4 or more.";
        }



        System.out.println("Average: " +average+ " children to get at least one of each
        gender.");
        System.out.println("Number of families with 2 children: " +twochildren);
        System.out.println("Number of families with 3 children: " +threechildren);
        System.out.println("Number of families with 4 or more children: " +fourchildren);
        System.out.println("The most common number of children is " +common);

        }

}
```