Divisors

```
import java.util.concurrent.ThreadLocalRandom;

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

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

Reverse

```
import java.util.concurrent.ThreadLocalRandom;

class Reverse {
public static void main(String args[]) {

String input_arg = (args[0]);
int arg_len = (input_arg.length() - 1);

while (arg_len >= 0){
        System.out.print(input_arg.charAt(arg_len));
                arg_len = arg_len - 1;
}

char middle;
if (input_arg.length()%2 == 0) {
        middle = input_arg.charAt((input_arg.length()-1)/2);;
}
else {
        middle = input_arg.charAt(input_arg.length()/2);
}

System.out.println();
System.out.println("The middle character is " + middle);

}
}
```

InOrder

```
import java.util.concurrent.ThreadLocalRandom;
class InOrder {
public static void main(String args[]) {

        Integer number = (int) (Math.random()*10);
        System.out.println(number);

        while (number<10) {
                Integer i = (int) (Math.random()*10);
                if (i>= number) {
                        System.out.println(i);
                        number = i;
                        }
                else {
                        number=10;
                }
        }
}
}
```

Perfect

```
import java.util.concurrent.ThreadLocalRandom;
class Perfect {
public static void main(String args[]) {

	Integer N = Integer.parseInt(args[0]);
	String s = "";
	int sum = 0;

	for (int i = 1; (i< N); i++) {
		if ((N%i) == 0) {
				sum += i;
				s += i;
				if (i< N/2 && N % i == 0) {
					s += " + ";
				}
		}
	}

	if (sum == N) {
		System.out.println(N + " is a perfect number since " + N + " = " + s);
	}
	else {
		System.out.println(N + " is not a perfect number");
	}
	}
}
```

DamkaBoard

```
class DamkaBoard {
public static void main(String args[]) {

        Integer n = Integer.parseInt(args[0]);
        String b = "";

            for (int i = n; (i> 0); i = (i - 1)) {
                    for (int j = n; (j> 0); j = (j - 1)) {
                            if (n%2 == 0){
                                    if (i%2 == 0){
                                            b += "* ";
                                    }
                                    else {
                                            b += " *";
                                    }
            }
            else {
               if (i%2 == 0){
                                            b += " *";
                                    }
                                    else {
                                            b += "* ";
                                    }
            }
                        }


                System.out.println(b);
                b = "";
}
}
}
```

OneOfEach

```
import java.util.concurrent.ThreadLocalRandom;

class OneOfEach {
public static void main(String args[]) {

        String p = "";
        Integer g = 0;
        Integer b = 0;
        Integer sum = 0;
        Double stat = 0.0;

                while ((g<=0) || (b<=0)) {
                        stat = Math.random();
                        if (stat>0.5) {
                                b++;
                                sum++;
                                System.out.print("b ");
                        }
                        else {
                                g++;
                                sum++;
                                System.out.print("g ");
                        }
                }

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

OneOfEachStats1

```
import java.util.Random;

class OneOfEachStats1 {
public static void main(String args[]) {

        Integer t = Integer.parseInt(args[0]);
        Integer two_k = 0;
        Integer three_k = 0;
        Integer four_k = 0;
        Double sum = 0.0;
        Random random = new Random();

        for (int i = t; (i> 0); i = (i - 1)) {

                String p = "";
                Integer g = 0;
                Integer b = 0;
                Double stat = 0.0;
                sum = 0.0;

                        while ((g<=0) || (b<=0)) {
                                stat = Math.random();
                                if (stat>0.5) {
                                        b++;
                                        sum++;
                                }
                                else {
                                        g++;
                                        sum++;
                                }
                        }

                Integer sum2 = (int) sum.doubleValue();

                switch (sum2) {
                        case 2: two_k++;
                                break;
                        case 3: three_k++;
                                break;
```

```
                default: four_k++;
                        break;
                }
                }

        Integer common = 0;

                if ((two_k> three_k) && (two_k> four_k)) {
                        common = 2;
                }
                else {
                        if (three_k> four_k) {
                                common = 3;
                        }
                        else {
                                common = 4;
                        }
                }

                Integer fSum = ((two_k*2) + (three_k*3) + (four_k*4));
                Double dSum = (double) fSum;
                Double tt = (double) t;
                Double avg = (fSum/tt);

                System.out.println("Average: " + avg + " children to get at least one of
each gender.");
                System.out.println("Number of families with 2 children: " + two_k);
                System.out.println("Number of families with 3 children: " + three_k);
                System.out.println("Number of families with 4 children: " + four_k);

      if (common==4){
                        System.out.println("The most common number of children is " +
common + "or more.");
                }
                else{
                        System.out.println("The most common number of children is " +
common + ".");
                }
}
}
```

OneOfEachStats

```
import java.util.Random;

class OneOfEachStats {
public static void main(String args[]) {

        Integer t = Integer.parseInt(args[0]);
        Integer seed = Integer.parseInt(args[1]);
        Integer two_k = 0;
        Integer three_k = 0;
        Integer four_k = 0;
        Integer totalChildren = 0;

        Random random = new Random(seed);

        for (int i = t; (i> 0); i = (i - 1)) {

                Integer g = 0;
                Integer b = 0;
                Double stat = 0.0;

                        while ((g<=0) || (b<=0)) {
                                stat = random.nextDouble();
                                if (stat>0.5) {
                                        b++;
                                }
                                else {
                                        g++;
                                }
                        }

                Integer sum2 = b + g;
                totalChildren += sum2;

                switch (sum2) {
                        case 2: two_k++;
                                break;
                        case 3: three_k++;
                                break;
                        default: four_k++;
```

```
                        break;
                }
                }

        Integer common = 0;

                if ((two_k> three_k) && (two_k> four_k)) {
                        common = 2;
                }
                else {
                        if (three_k> four_k) {
                                common = 3;
                        }
                        else {
                                common = 4;
                        }
                }

                Double avg = ((double) totalChildren/(double) t);

                System.out.println("Average: " + avg + " children to get at least one of
each gender.");
                System.out.println("Number of families with 2 children: " + two_k);
                System.out.println("Number of families with 3 children: " + three_k);
                System.out.println("Number of families with 4 or more children: " + four_k);

                if (common==4){
                        System.out.println("The most common number of children is " +
common + "or more.");
                }
                else{
                        System.out.println("The most common number of children is " +
common + ".");
                }
}
}
```