

```

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

        for (int i = 1; i <= n; i++){
            for (int j=0; j<n; j++){

                if (i%2 == 0){
                    System.out.print(" *");
                }else{
                    System.out.print("* ");
                }
            }

            System.out.println();
        }
    }
}

```

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```

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

        int a = Integer.parseInt(args[0]);
        int i = 1;
        while (i <= a){
            if (a % i == 0){
                System.out.println(i);
            }
            i++;
        }
    }
}

```

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```

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

        int a ;
        int b = 0;

        do
        {

            a = (int) (Math.random() * 10);

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    if (a >= b){

        System.out.print(a);

        b = a;

    }else{

        break;
    }
    }while (true);
}
}

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

        String str = args[0];

        for (int i = str.length() - 1; 0<=i; i--){
            char c = str.charAt(i);
            System.out.print(c);
        }
        System.out.println("");

        if (((int)str.length()) % 2 == 0){
            System.out.println("The middle character is " + str.charAt((int)((str.length())/2)-1));
        } else {
            System.out.println("The middle character is " + str.charAt((int)((str.length())/2)));
        }
    }
}

```

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```

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

        int N = Integer.parseInt(args[0]);
        int J = 0;

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        // check if the number is perfect
        for ( int i = 1 ; i <= N; i++){
            if(N % i == 0){
                J=J+i;
            }else{
                J = J + 0;
            }
        }
        if (J - N == N){
            System.out.print(N + " is a perfect number since " + N + " = 1");
            for (int D = 2; D < N; D++){ //int D for Divisors
                if (N % D == 0){
                    System.out.print(" + " + D);
                }
            }
            System.out.println();
        }else{
            System.out.print(N + " is not a perfect number");
        }
    }
}

```

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```

import java.util.Random;
/**
 * Simulates the formation of a family in which the parents decide
 * to have children until they have at least one child of each gender
 * now with average
 */
public class OneOfEachStats {
    public static void main (String[] args) {

        double T = Double.parseDouble(args[0]);
        int seed = Integer.parseInt(args[1]);
        double average = 0.0;
        int FamilyWith2 = 0;
        int FamilyWith3 = 0;
        int FamilyWith4 = 0;
        Random generator = new Random(seed);

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

```

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        {
double counter = 0;
double boy = 0;
        double girl = 0;

        while (boy == 0 || girl == 0)
        {
            double random = generator.nextDouble();
            if (random < 0.5){
                girl++;

            }else{
                boy++;
            }
            counter++;
        }
        if (counter == 2){ FamilyWith2++;}
        else if (counter == 3){FamilyWith3++;}
        else{FamilyWith4++;}
        average += counter;
    }
    System.out.println("Average: " + average / T + " children to get at least one of each
gender.");
    System.out.println("Number of families with 2 children: " + FamilyWith2);
    System.out.println("Number of families with 3 children: " + FamilyWith3);
    System.out.println("Number of families with 4 or more children: " + FamilyWith4);

        if (FamilyWith2 > FamilyWith3 && FamilyWith2 > FamilyWith4)
            {System.out.println("The most common number of children is 2.");}
        else if (FamilyWith3 > FamilyWith2 && FamilyWith3 > FamilyWith4)
            {System.out.println("The most common number of children is 3.");}
        else if (FamilyWith4 > FamilyWith2 && FamilyWith4 > FamilyWith3)
            {System.out.println("The most common number of children is 4 or
more.");}
    }
}

```