```
public class DamkaBoard {
 public static void main(String[] args){
       int given = Integer.parseInt(args[0]);
       int i; //used for collumns
       int j; //used for rows

       for(i = 0; i < given; i++){
                   if(i % 2 != 0){
                         System.out.print(" ");
                   }
                   for(j = 0; j < given; j++){
                   System.out.print("* ");
                   }
             System.out.println();
       }
 }
}
```

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

        //declares variable for running the loop
 int tester = 1;

 //loops from 1 until given checking divisibility
 while (tester < given){
        int remainder = given % tester;

        if(remainder == 0){
              System.out.println(tester);
        }
        tester++;
 }
 System.out.println(given);
 }
}
```

```
    public class InOrder {
     public static void main(String[] args){
          //gets input
          int min = 0;
          int max = 10;
          int genNum = 0;
          int newMin;
     do{
          //generates nums while the gen num is higher than previous
and in the range
          newMin = genNum;
          genNum = (int)(Math.random() * (max - min) + min);
               if(genNum >= newMin){
                    System.out.println(genNum);
               }

          }
          while(genNum >= newMin && genNum <= max);
     }
    }
```

```
public class OneOfEach{
 public static void main(String[] args){
        String sen = "You made it... and you now have ";
        String sen2 = " childen";
        String b = "b ";
        String g = "g ";
        String bg = "";
        int children = 0;
        boolean boy = false;
        boolean girl = false;
        System.out.println();


                while(!(boy && girl)){

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

                        if(child > 5){

                                children = children + 1;
                                boy = true;
                                System.out.print(bg + b);

                }

                        if(child <= 5){

                                children = children + 1;
                                girl = true;
                                System.out.print(bg + g);

                }
        }
                System.out.println();
                System.out.println(sen + children + sen2);
 }
}
```

```
        public class OneOfEachStats {
         public static void main(String[] args){
                int t = Integer.parseInt(args[0]); //num of times to run
expirament
                int numChild = 0; //number of children so far
                int boys = 0; //to store total number of boys/girls
                int girls = 0;
                boolean boy = false; //initializes bpy/girl values as not have
happened yet
                boolean girl = false;
                String mean = "";

                //Declares special variables for countint total kids between t's
                //these special variables are not reninitialized
                int totalKids = 0;
                double avgFamSize = 0;
                int famsOf2 = 0;
                int famsOf3 = 0;
                int bigFams = 0;

                //for loop running the expirament t times
                for(int i = 0; i <= t; i++){

                //saves info from last loop to cumulative variable stats
                totalKids = totalKids + numChild;

                //if statements to store family sizes (before number of
children is reinitialized)
                if(numChild == 2){
                        famsOf2 = famsOf2 + 1;
                }
                if(numChild == 3){
                        famsOf3 = famsOf3 + 1;
                }
                if(numChild >= 4){
                        bigFams = bigFams + 1;
                }
        //reinitializes stats for next expirament
        boy = false;
        girl = false;
        numChild = 0;
        boys = 0;
        girls = 0;

        while(!(boy && girl)){
            //generates integer to later assign a childs identiry
            int identAssign = (int) (Math.random() * 10);
            numChild = numChild + 1; //counts total number
of children so far (in current iteration only)

            //if boy use the int to assign boolean value

            if(identAssign > 5 ){
            boys = boys + 1;
            boy = true;

            }

            if(identAssign <= 5){
            girls = girls + 1;
            girl = true;

            }


        }
                    //calculate family stats here
        avgFamSize = (double) totalKids / t;
        //calculats mean
        if(famsOf2 >= famsOf3 && famsOf2 >= bigFams){
            mean = "2";
        }
        if(famsOf3 > famsOf2 && famsOf3 > bigFams){
            mean = "3";
        }
        if(bigFams > famsOf2 && bigFams > famsOf3){
            mean = "4 or more";
            }

    }

    //prints stats
    System.out.println("Average: " + avgFamSize + " children to get at
least one of each gender.");
    System.out.println("Number of families with 2 children: " +
famsOf2);
    System.out.println("Number of families with 3 children: " +
famsOf3);
    System.out.println("Number of families with 4 or more children: " +
bigFams);
    System.out.println("The most common number of children is " +
mean + ".");
    }
   }

     public class perfect {
        public static void main(String[] args){
            int given = Integer.parseInt(args[0]);
            int candidateFactor = 1;
            int perfNumCheck = 0;

            while(candidateFactor < given){
                int remainder = given % candidateFactor;
                if(remainder == 0){
                    int ("num" + candidateFactor) =
  candidateFactor;

                    perfNumCheck = perfNumCheck + tester;

                }
                tester++;

            }
            System.out.println(perfNumCheck);
        }
     }
    public class Reverse {
        public static void main(String[] args) {
            //recieves input and declares int for string length
            String input = args[0];
            int tester = input.length();
            String empty = "";


            while(tester > 0){
                char nextAddition = input.charAt(tester - 1);
                empty = empty + nextAddition;
                tester--;

            }
                System.out.println(empty);
                int length = input.length();
                System.out.println("The middle character is " +
input.charAt(length/2));
        }
    }
```