Divisors.java

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

Reverse.java

```
public class Reverse {
      public static void main (String[] args){
           //// Put your code here
              String word = args[0];
         for( int i = word.length() - 1; i >= 0; i--){
             System.out.print(word.charAt(i));
         }
         System.out.println();
         int middleIndex = (word.length() - 1) / 2;
             System.out.println( "The middle character is " +
word.charAt(middleIndex));
    }
}
```

InOrder.java

```
public class InOrder {
     public static void main (String[] args) {
          //// Write your code here
          // make a inr previous = 0
          int p = 0;
     //start while loop until random >= p, if random < p, loop breaks
        while(true){
         // generate random number in range [0 -> 10)
           int random = (int) (Math.random() * 10);
           if(random >= p){
               System.out.print(random + " ");
          // previous number gets random value fron last loop
               p = random;
           }else{
          // breaking loop if random <= p
               break;
           }
        }
    }
}
```

DamkaBoard.java

```
public class DamkaBoard {
      public static void main(String[] args) {
            int board = Integer.parseInt(args[0]);
                for (int i = 0; i < board; i++) {
                for (int j = (1 - board); j <= board; j++) {
                      boolean isTale = (i + j) % 2 ==0;
                            if (board % 2 == 0){
                        isTale = !isTale;
                    }
                    System.out.print(isTale ? "*" : " ");
                    }
                System.out.println();
            }
      }
}
```

Perfect.java

```
public class Perfect {
      public static void main (String[] args) {
            // user input
         int num = Integer.parseInt(args[0]);
         // sum = 1 because String starts from 1
         int sum = 1;
         // Start string from 1 because we need to make it look like this:
         // 6 is a perfect number since 6 = 1 + 2 + 3
         String divisors = "1";
         //start for loop to find divisors i = 2 because sum starts from 1
         for(int i = 2; i < num; i++){
             //check for divisors
             if(num % i == 0){
                 sum += i;
                 // String starts from 1 and for loop add divisors.
                 divisors += " + " + i;
             }
         }
         // check for a perfect number or not
         if (sum == num){
             System.out.println(num + " is a perfect number since " + num
+ " = " + divisors );
         }else{
             System.out.println(num + " is not a perfect number");
         }
      }
}
```

OneOfEachStats.java

```
import java.util.Random;

public class OneOfEachStats {
      public static void main (String[] args) {
            int T = Integer.parseInt(args[0]);
        int seeds = Integer.parseInt(args[1]);
        int totalChildren = 0;
        int twoChildren = 0;
        int threeChildren = 0;
        int fourOrMore = 0;
        Random generator = new Random(seeds);
        for(int i = 0; i<T; i++){
            boolean isBoy = false;
            boolean isGirl = false;
            int childCount = 0;
            while(!isBoy || !isGirl){
                double rnd = generator.nextDouble();
                boolean hasBoy = rnd < 0.5;
                if(hasBoy){
                    isBoy = true;
                }else{
                    isGirl = true;
                }
                childCount++;
            }
            totalChildren += childCount;

            if(childCount == 2){
                twoChildren++;
            } else if (childCount == 3){
                threeChildren++;
            }else if (childCount >= 4){
                fourOrMore++;
            }
        }
        double avg = (double) totalChildren / T;
        System.out.println("Average: " + avg + " 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: " +
fourOrMore);

        // most common number of children
        int max = Math.max(Math.max(twoChildren ,threeChildren),fourOrMore);
        if (max == twoChildren){
            System.out.println("The most common number of children is 2.");
        }else if(max == threeChildren){
            System.out.println("The most common number of children is 3.");
        }else if(max == fourOrMore){
            System.out.println("The most common number of children is 4 or more.");
        }
      }
}
```