Homework 2

Divisors

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

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

         }
         }
}
```

Reverse

```
public class Reverse {
      public static void main (String[] args) {
            String s = args [0];

            for(int i = s.length()-1; i >=0; i--) {
                  System.out.print(s.charAt(i));
            }

             char middle = s.charAt((s.length()-1)/ 2 );
              System.out.println();
              System.out.println("The middle character is "+ middle);
      }
}
```

InOrder

```
public class InOrder {
   public static void main (String[] args) {
            int random1 = (int)((Math.random()) *10);
            int random2;

            do {
                     System.out.print(random1 + " ");
                     random2=random1;
                     random1 = (int)((Math.random()) *10);
            } while (random2<=random1);
   }
}
```

DamkaBoard

```
public class DamkaBoard {
      public static void main (String[] args) {
           int a = Integer.parseInt(args[0]);
            int row = 1;
            for (int i=1; i<=a; i++)
            {
                  for (int j=1; j<=a; j++)
                  {
                        if (row % 2 ==0) System.out.print(" *");
                        else System.out.print("* ");


                  }
         System.out.println();
            row++;
            }
         }
    }
```

Perfect

```
public class Perfect {
   public static void main (String[] args) {
      int i = Integer.parseInt(args[0]);
      int sum = 0 ;
      for(int divisor = 1; divisor < i; divisor++) {
         if(i%divisor == 0) {
            sum = sum + divisor ;
         }
      }
      if(i==sum) {
         System.out.print(i + " is a perfect number since " + i + "
= " + "1");
         for(int divisor = 2; divisor < i; divisor++) {
             if(i%divisor == 0) {
             System.out.print(" + " + divisor);
             }
          }
      }
      else
         System.out.println(i + " is not a perfect number ");

   }
}
```

OneOfEachStats

```
import java.util.Random;


public class OneOfEachStats {
      public static void main (String[] args) {
            // Gets the two command-line arguments


            int seed = Integer.parseInt(args[1]);
            // Initailizes a random numbers generator with the given
seed value
         Random generator = new Random(seed);
            int t = Integer.parseInt(args[0]);
            double sum = 0;
            int two = 0;
            int three = 0;
            int fourMore = 0;
            boolean girl = false;
            boolean boy = false;
            int count = 0;


            for( int i = 1; i <= t; i++){
                  while ( girl == false || boy == false) {


                        if ( ( generator.nextDouble() ) < 0.5 )
                              girl = true;
                        else
```

```
                    boy = true;


                count ++;
            }


            sum = sum + count;


            if ( count == 3)
                 three ++;
            if ( count >= 4)
                fourMore ++;
            if ( count == 2)
                 two++;



            count = 0;
            girl = false;
            boy = false;


        }


        System.out.println("Average: " + (sum / t) + " children to
get at least one of each gender.");
        System.out.println("Number of families with 2 children: "
+ two );
        System.out.println("Number of families with 3 children: "
+ three);
```

```
           System.out.println("Number of families with 4 or more
children: " + fourMore );


           int max= Math.max( two, Math.max(three, fourMore));

           if (max == two)

                System.out.println("The most common number of
children is 2.");

           else

                if (max == three)

                     System.out.println("The most common number of
children is 3.");

                else

                     System.out.println("The most common number of
children is 4 or more.");




     }

}
```