מטלה 2

שאלה 1

Divisors

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

Reverse

```
public class Reverse {
 public static void main (String args[]) {
  String str= args[0];
   int last= str.length();
   String newString="";
   while (last>0){
      newString= newString + str.charAt((last-1));
        last=last-1;
  }
   System.out.println(newString);
    last=str.length();
      if(last%2==0){
         System.out.println("The middle character is " + str.charAt((last/2)-1));
       }else{
         System.out.println("The middle character is " + str.charAt(last/2));
            }
 }
}
```

InOrder

```
public class InOrder{
  public static void main (String args[]) {
   int x= 0;
  int ran=(int)(Math.random()*10);
   while(x<=ran){
    System.out.print(ran + " ");
              x=ran;
              ran=(int)(Math.random()*10);
               }
              }
             }
```

DamkaBoard

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

Perfect

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

OneOfEachStats

```
import java.util.Random;

public class OneOfEachStats {
  public static void main (String args[]) {
  double sum=0; int girl=0; int boy=0;
  int count2=0; int count3=0; int count4=0;
  double total=0;
  int T= Integer.parseInt(args[0]);
  int seed=Integer.parseInt(args[1]);
  Random generator = new Random(seed);
   double random = 0;
  for (int i=0; i<T; i++) {
     while(girl==0||boy==0) {
              random=generator.nextDouble();
                  if (random<0.5){
                                  boy++;
                        }else {
                                  girl++;
                                 }
                                 sum=sum+1;
                        }
                        total=total+sum;
               if (sum==2){
                   count2++;
                }else if(sum==3) {
                     count3++;
                  }else{
                     count4++;
               }
```

```
    sum=0; girl=0; boy=0;
  }

  System.out.println("Average: " +(total/T)+ " children to get at least one of each gender.");
   System.out.println("Number of families with 2 children: " + count2);
  System.out.println("Number of families with 3 children: " + count3);
  System.out.println("Number of families with 4 or more children: " + count4);

                if (count2>count3 && count2>count4){
                    System.out.println("The most common number of children is 2.");
               } else if  (count3>count2 && count3>count4){
                   System.out.println("The most common number of children is 3.");
               } else if (count4>count3 && count4>count2){
                  System.out.println("The most common number of children is 4 or more.");

            }
  }
}
```