Home Work number 2

1. Divisors

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

2. Reversing a string

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

          } else {
                System.out.println("The middle character is "
+ reversed.charAt((reversed.length() - 1) / 2));
          }
     }
}
```

3. Lucky streak

```
public class InOrder {
    public static void main (String[] args) {
        int checker = 0;
        int randomNum = (int)(Math.random() * 10);

        while (randomNum >= checker) {
            System.out.print(randomNum + " ");
            checker = randomNum;
            randomNum = (int)(Math.random() * 10);
        }
    }
}
```

4. Perfect Numbers

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

5. Damka Board

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

6. One of Each Stats

```
import java.util.Random;
public class OneOfEachStats {
      public static void main (String[] args) {
            double families = Double.parseDouble(args[0]);
            int seed = Integer.parseInt(args[1]);
            Random generator = new Random(seed);
            boolean isBoy; boolean isGirl;
            double gender = 0.0;
      int counts2 = 0; int counts3 = 0; int counts4orMore = 0;
            int counter = 0;
            double sumOfKids = 0.0;

            for (int i = 0; i < families; i++) {
                  counter = 0;
                isBoy = false;
                isGirl = false;
               while (!isBoy || !isGirl) {

                    gender = generator.nextDouble();

                      if (gender < 0.5) {
                       isGirl = true;
                        } else
                             isBoy = true;

                    counter++;
                    sumOfKids++;
             }
               if (counter == 2) {
                  counts2++;
```

```
                } else if (counter == 3) {
                    counts3++;
                  } else
                      counts4orMore++;
        }
            int mostCommon = counts2;
            String theMostCommon = "2";

            if (counts3 > counts2) {
                mostCommon = counts3;
                theMostCommon = "3";
            }

            if (counts4orMore > mostCommon) {
                mostCommon = counts4orMore;
                theMostCommon = "4 or more";
            }

            double average = (double)(sumOfKids / families);


                System.out.println("Average: " + average + "
children to get at least one of each gender.");
                System.out.println("Number of families with 2
children: " + counts2);
                System.out.println("Number of families with 3
children: " + counts3);
                System.out.println("Number of families with 4
or more children: " + counts4orMore);
                System.out.println("The most common number of
children is " + theMostCommon + ".");


          }
     }
```