Java - Introduction to Programming Lecture 6

Patterns - Part 2

```
import java.util.*;

public class Solutions {
   public static void main(String args[]) {
      int n = 4;

      //upper part
      for(int i=1; i<=n; i++) {
            for(int j=1; j<=i; j++) {
                System.out.print("*");
      }

      int spaces = 2 * (n-i);
      for(int j=1; j<=spaces; j++) {
            System.out.print(" ");
      }

      for(int j=1; j<=i; j++) {
            System.out.print("*");
      }

      System.out.println();
   }
}</pre>
```

```
//lower part
for(int i=n; i>=1; i--) {
    for(int j=1; j<=i; j++) {
        System.out.print("*");
    }

    int spaces = 2 * (n-i);
    for(int j=1; j<=spaces; j++) {
        System.out.print(" ");
    }

    for(int j=1; j<=i; j++) {
        System.out.print("*");
    }

    System.out.println();
}
</pre>
```

```
*****
*****
*****
```

```
import java.util.*;

public class Solutions {
   public static void main(String args[]) {
    int n = 5;
}
```

```
1
22
333
4444
55555
```

```
import java.util.*;

public class Solutions {
   public static void main(String args[]) {
      int n = 5;

      for(int i=1; i<=n; i++) {
            //spaces
            for(int j=1; j<=n-i; j++) {
                 System.out.print(" ");
            }

            //numbers
            for(int j=1; j<=i; j++) {
                      System.out.print(i+" ");
                 }
                 System.out.println();
            }
        }
}</pre>
```

```
import java.util.*;
public class Solutions {
  public static void main(String args[]) {
              System.out.print(" ");
              System.out.print("*");
          System.out.println();
              System.out.print("*");
          System.out.println();
```

Homework Problems

1. Print a hollow Butterfly.



2. Print a hollow Rhombus.

* *

* *

* *

3. Print Pascal's Triangle.

1

11

121

1331

14641

4. Print half Pyramid.

1

5. Print Inverted Half Pyramid.