CMPE 150 Introduction to Computing, Fall 2017 - Project 1

Project Report

1. Problem Description: The problem is writing a java program which implements the ASCII monkeys. We have to use at least two static methods in addition to the main method. We also have to minimize the recurrent parts of the code by using for loops in an effective way. Generating the entire picture or any single line using printing statements is forbidden.

2. Problem Solution: I handle the assignment by using methods and for loops. Firstly, I created a "line" method and I used it nearly every part of the code. I understood the information (parameters etc.) that we learnt in the lessons more clearly, thanks to "line" method. Secondly, since I recognize the recurrent parts of the code I created 7 more methods to minimize the lines. In "eyes" method I use for loops too. Finally, I create 8 more methods for each line in order to make my main method more regular.

3. Implementation:

```java
public class Assignment {

    public static void main(String[] args) {

    //      I created methods for each line.

            firstline();
            secondline();
            thirdline();
            fourthline();
            fifthline();
            sixthline();
            seventhline();
```

```java
        sentence();
}

//I created a method by using parameters. This simplify my work.

public static void line(int x, String a){

// "i" is the number of the charecter which I want to output.

        for(int i=1; i<=x; i++){

                System.out.print(a);
        }
}

public static void hair(){

//All the monkeys have the same pattern in first line!

        line(1,".");
        line(1,"-");
        line(1,"\"");
        line(1,"-");
        line(1,".");
}

public static void hair2(){

// 2.,3. and 4. monkeys has same pattern in second line!

        line(1,"_");
        line(1,"/");
        line(1,".");
        line(1,"-");
        line(1,".");
        line(1,"-");
```

```java
        line(1,".");
        line(1,"\\");
        line(1,"_");
    }

    public static void eyes(int x){

        // 3. and 4. monkeys have same patter in third line!

        for(int i=1; i<=2; i++){

        line(5," ");
        line(1,"(");
        line(1," ");
        line(1,"(");
        line(1," ");
        line(1,"o");
        line(1," ");
        line(1,"o");
        line(1," ");
        line(1,")");
        line(1," ");
        line(1,")");
    }
    }

    public static void nose(){

    //1. and 2. monkeys have the same nose in fourth line!

        line(1," ");
        line(2,"/");
        line(2," ");
        line(1,"\"");
        line(2," ");
        line(2,"\\");
```

```java
        line(1," ");
    }

    public static void nose2(){

//      3. and 4. monkeys have the same patter in fourth line!

        line(1,"|");
        line(1,"/");
        line(2," ");
        line(1,"\"");
        line(2," ");
        line(1,"\\");
        line(1,"|");
    }

    // 1. and 2. monkeys have the same pattern in fifth and sixth lines
thus I created the next 2 methods!

    public static void mouth(){

        line(1,"/");
        line(1," ");
        line(1,"/");
        line(1," ");
        line(1,"\\");
        line(1,"'");
        line(3,"-");
        line(1,"'");
        line(1,"/");
        line(1," ");
        line(1,"\\");
        line(1," ");
        line(1,"\\");
    }
```

```java
public static void chin(){

        line(1,"\\");
        line(1," ");
        line(1,"\\");
        line(1,"_");
        line(1,"/");
        line(1,"`");
        line(3,"\"");
        line(1,"`");
        line(1,"\\");
        line(1,"_");
        line(1,"/");
        line(1," ");
        line(1,"/");
}

public static void firstline(){

        line(6," ");
        hair();
        line(12," ");
        hair();
        line(12," ");
        hair();
        line(11," ");
        hair();
        System.out.println();
}

public static void secondline(){

        line(4," ");
        line(1,"_");
        line(1,"/");
        line(1,"_");
```

```java
        line(1,"-");
        line(1,".");
        line(1,"-");
        line(1,"_");
        line(1,"\\");
        line(1,"_");
        line(8," ");
        hair2();
        line(8," ");
        hair2();
        line(7," ");
        hair2();
        System.out.println();
    }

    public static void thirdline(){

        line(3," ");
        line(1,"/");
        line(1," ");
        line(2,"_");
        line(1,"}");
        line(1," ");
        line(1,"{");
        line(2,"_");
        line(1," ");
        line(1,"\\");
        line(6," ");
        line(1,"/");
        line(1,"|");
        line(1,"(");
        line(1," ");
        line(1,"o");
        line(1," ");
        line(1,"o");
        line(1," ");
```

```java
        line(1,")");
        line(1,"|");
        line(1,"\\");
        line(1," ");
        eyes(2);
        System.out.println();
    }

    public static void fourthline(){

        line(2," ");
        line(1,"/");
        nose();
        line(1,"\\");
        line(4," ");
        line(1,"|");
        nose();
        line(1,"|");
        line(6," ");
        nose2();
        line(7," ");
        nose2();
        System.out.println();
    }

    public static void fifthline(){

        line(1," ");
        mouth();
        line(2," ");
        mouth();
        line(6," ");
        line(1,"\\");
        line(1,"'");
        line(1,"/");
        line(1,"^");
```

```java
        line(1,"\\");
        line(1,"'");
        line(1,"/");
        line(9," ");
        line(1,"\\");
        line(1," ");
        line(1,".");
        line(1,"-");
        line(1,".");
        line(1," ");
        line(1,"/\n");
    }

    public static void sixthline(){

        line(1," ");
        chin();
        line(2," ");
        chin();
        line(6," ");
        line(1,"/");
        line(1,"`");
        line(1,"\\");
        line(1," ");
        line(1,"/");
        line(1,"`");
        line(1,"\\");
        line(9," ");
        line(1,"/");
        line(1,"`");
        line(3,"\"");
        line(1,"`");
        line(1,"\\");
        System.out.println();
    }
```

```java
public static void seventhline(){

        line(2," ");
        line(1,"\\");
        line(11," ");
        line(1,"/");
        line(4," ");
        line(1,"\\");
        line(11," ");
        line(1,"/");
        line(6," ");
        line(1,"/");
        line(2," ");
        line(1,"/");
        line(1,"|");
        line(1,"\\");
        line(2," ");
        line(1,"\\");
        line(7," ");
        line(1,"/");
        line(7," ");
        line(1,"\\");
        System.out.println();
    }

    public static void sentence(){

    System.out.println("\n { see no evil }={ hear no evil }={ speak no
evil }={ have no fun }=-");
    }
}
```

4. Output of the Program:

```
     .-"-.                .-"-.                .-"-.                .-"-.
    _/_-.-_\_            _/.-.-.\_            _/.-.-.\_            _/.-.-.\_
   / __} {__ \          /|( o o )|\          ( ( o o ) )          ( ( o o ) )
  / //  "  \\ \         | //  "  \\ |         |/  "  \|            |/  "  \|
 / / \'---'/ \ \      / / \'---'/ \ \         \'/^\'/               \ .-. /
 \ \_/`"""`\_/ /      \ \_/`"""`\_/ /         /`\ /`\              /`"""`\
  \           /        \           /         /  /|\  \            /       \
```
-={ see no evil }={ hear no evil }={ speak no evil }={ have no fun }=-

5. Conclusion: As seen from the output, program is able to handle the requested task correctly. I don't get any compiler error and I get the same output as the one in the example.

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