1. (6 points) Fill in the blanks!

A beautiful program is ____________ and ________________.

2. (3 points) What are variables used for in a Java program?

3. (3 points) What is the syntax (BNF) of an assignment statement?

4. (3 points) What is the semantics of an assignment statement?

5. (3 points) Assume there is a class named Halloween. Declare a variable of type Halloween named trickOrTreat.

6. (4 points) Assume you have a variable of type Halloween named trickOrTreat (see above!); write a line of code to instantiate a Halloween and store that new Halloween in the variable trickOrTreat.

7. (3 points) Write a statement to send your Halloween instance a getCandy() message which has no parameters.

8. (3 points) Assuming it exists, what method in the Halloween class is invoked by System.out.println(trickOrTreat); ?

9. (3 points) What are parameters used for?

10. (3 points) Here are two legal names: baz, and Baz. These are different, because Java is case sensitive. If you are following the Java naming convention, which of these is the name of a class?
11. (3 points) Why are initializing constructors useful?

12. (3 points) In a Java method, what is this?

13. (4 points) Why are good names important?

14. (6 points) What are the three attributes of every variable?
   i)
   ii)
   iii)

15. (6 points) Ruby (!) is facing east. Write an instruction that will make her face west if there are an odd number of coins at her corner, or east if an even number (make her end up with all the coins).

16. (3 points) How do you fix a bug you can’t find?

17. (5 points) Assume you have an Circle class, with an int variable, x (the x-coord of the circle). Write a method, moveRight() which will increase x by its parameter.

18. (5 points) Write a method, named product, which returns the product of its two int parameters.
19. (21 points) Write a complete class named `Nap` with just one int variable, length (in minutes), and three methods: accessors for the length variable, and public `String toString()` (that returns the class name and the value of its instance variable using `getLength()` -- this last so we know `getLength()` works!).
20. (10 points) Complete this class named Test. Fill in main so it creates two Naps, named catNap and kidNap, sets their lengths to 15 and 123, respectively, and then outs each to the Output window.

```java
class Test {
    public static void main(String[] args) {
        // Your code here
    }
}
```

21. (Extra credit 10 points) Write a complete NoNap class which is identical with Nap, except it pretends the person didn’t sleep, by overriding the getLength() method so it always returns zero. NoNap is only allowed to have one method.