2000 Paper 1 Question 4

Programming in Java

The following attempt at Java code might have been written by a beginner. Identify (but do not correct) as many of the mistakes as you can. Explain how each oddity you identify is either something that would prevent the program from compiling, something that would cause it to stop abruptly reporting failure at runtime, a reason why the program might not do anything sensible or just a stylistic oddity.

```java
//* A comment to start with: Exam:2000 */
public Class mycode.java
{
void static public fun main(String [junk])
  begin
    Leaf tr = null;
    for (i=1; i>10; ++i) tr = new Node(i, tr)
    tr.print();
  end;
}

class Leaf
{
    integer value;
    Leaf(int value)
    {   this = value; }
    public void print()
    {   System.out.println(value); }
}

class Node extends Leaf
{
    Leaf left, right;
    Node(leaf l, Leaf r)
    {   left = l, right = r;
    }
    void print()
    {   left.print();
        System.out.println("val=" @ value);
        right.print();
    }
}
```

[10 marks]

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