

# Programming Languages

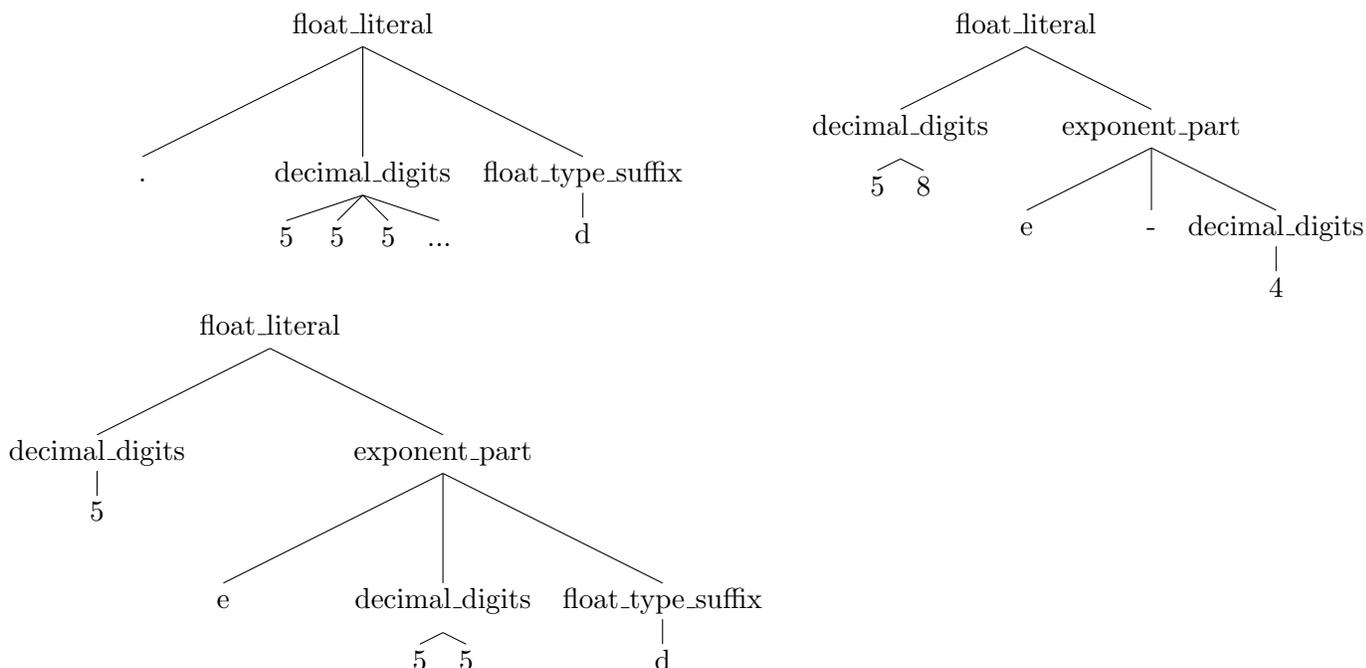
## HW 1 - SOLUTIONS, October 24, 2008

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Due in **two** weeks

### Problem 1.

1.



2. This grammar would support only at most 2 digits' decimal\_digit (like 22.22 or 3.14).

### Problem 2.

1. The fourth line means that numbers represented in hexadecimal are accepted by this rule.
2. `0x4`, `0xdeadbeef`, `0xfeed5`.

### Problem 3.

This program simply increments `c` until 150 then prints "Finished!".

This program is going to hang because of an infinite loop:

In C, a char is defined between `[-128 (0b10000000), 127 (0b01111111)]`. When a char variable set to 127 is incremented, it's value will be `-128 (0b01111111 + 1 = 0b10000000)`.

To correct it, we could use a unsigned char `[0, 255]` or an int !

**Problem 4.**

4

4

The first line increments  $i$  before printing it.

The second line increments  $i$  after printing it.