22C:16 Practice Problem Set

Expression Evaluation Practice

Consider the following expressions. For each expression, first determine whether the expression is *well-formed* or not. For each well-formed expression, determine if the expression will be successfully evaluated by Python or not. For each expression that is successfully evaluated, determine its value and the type of its value.
You should ideally work through each expression away from a computer and then compare your answers with what you get by using the Python shell. Make sure that understand the reason behind each answer.

1. `3 < 10 or 5`
2. `3 < (10 or 2)`
3. `3 < (2 or 10)`
4. `(10 < 100) or (50 < 100/0)`
5. `(50 < 100/0) or (10 < 100)`
6. `len("hello") == 25/5 or 20/10`
7. `-4*-2**3+-len(str(6))`
8. `2*(2*(2*len("01"))`
9. `(5 < 10) and (10 < 5) or (3 < 18) and not 8 < 18`
10. `5 < -20`
11. `5 < *20`
12. `"expression"/10 + 15`
13. `(len("expression")/10 + 15)/len(str(10+15))`
14. `round(10.78)/3 < len("10.78)`
15. `abs(5 - 25) < 15`
16. `len(bin(25))`
17. `bool(math.sqrt(-1))`
18. `bool(math.sqrt((-1)**10))`
19. `math.ceil(1.5)/math.floor(1.5)+200L`
20. `(sys.maxint + 10)*0`
21. `2/math.trunc(1.5)+200L`
22. `sys.max+10`
23. `10**350`
24. `10.0**350`
25. `random.randint(0, 20) <= 100`