**COMP 333**

**Summer 2021**

**Unification in Prolog**

For each of the unification attempts below, state:

* Whether or not the unification succeeds
* If the unification succeeds, state the values of each variable

1.) 1 = 1

2.) 1 = 2

3.) X = 27

4.) 1 = X

5.) X = foo

6.) foo = bar

7.) 1 = baz

8.) foo(1) = foo(1)

9.) foo(1) = foo(2)

10.) foo(X) = foo(1)

11.) foo(1) = foo(X)

12.) foo(1) = foo(1, 2)

13.) foo(X, Y) = foo(1)

14.) foo(X, Y) = foo(1, 2)

15.) foo(1, Y) = foo(X, 2)

16.) foo(1, 2) = foo(X, X)

17.) foo(bar(X), Y) = foo(Z, bar)

18.) foo(bar(X), foo(Y)) = foo(foo(1), foo(2))

19.) foo(bar(X), foo(2)) = foo(bar(3), foo(Y))

20.) foo(bar(X), X) = foo(Y, 2)

21.) foo(1, foo(2, foo(3, bar))) = foo(1, foo(2, foo(bar)))