**Questions Week 4 class 1**

Is there a time when applying a rule to a list like {x\_} :> x^2 to every element, as we could do with a Map[] or Apply[] of some function a function f[x\_]:=x^2, would be more desirable?  (Less space, more readable, etc) We’ll see some examples today.

Would there ever be a case where you would want to ReplaceRepeat a pattern between a min and max number of times? Basically, MaxIterations is an option for ReplaceRepeated but not MinIterations.

The min always needs to be 1

Do you have any debugging tips for when we have built a pattern and it doesn’t do as we expect? It sounds like success with patterns is largely based on a strong understanding of the structures under the hood. Practice?

Why in this example does rule-delayed work, but rule does not work?

rule: n = 1;

sample /. -> {a, n ++<}

{d, e, {a, 1}, c, {a, 1}, b, f, {a, 1}, {a, 1}, e, g, {a, 1}}

and RuleDelayed: n = 1;

sample /. a :> {a, n ++}

{d, e, {a, 1}, c, {a, 2}, b, f, {a, 3}, {a, 4}, e, g, {a, 5}}

Does FullForm just explain what you've inputted? FullForm output the expression that mathematica evaluates, it can be helpful in debugging.

One Underscore, two Underscores, three underscores?

\_ one expression, \_\_ one or more expressions, \_\_\_ zero or more expressions

Could you explain inner and outer functions? I will on the board.

When is it better to use Cases vs Select? Depends on if you want to use a Boolean function or a pattern.