Feb 23

Friday, February 23, 2018 11:24 AM

My notes about last meeting:

My understanding: we know that code(f(a),b)=code(g(a),b). We have different definitions for decode(Code(b,b)) and decode(Code(c,b)). So, we need to show that these two definitions agree on code(f(a),b) and code(g(a),b).

We have been trying to understand code(f(a),b) again so that we can understand what decode does to it and make sure it agrees.

I think we may have started re-proving code(f(a,b)=c(g(a),b) again. (I think this has happened before)

We were trying to simplify the PO for code(f(a),b) so that we can better describe what's in it. Think that for this case, we can treat alpha=a. The whole f(alpha)=f(a) thing is an artifact of the Code(b',b) definition.

$$\begin{tikzcd}
\cancel{\sum_{\alpha:A}} \cancel{(f(a)=f(\alpha))}^{\alpha=a} \times (b=f(\cancel{\alpha}^{a})) \arrow[r] \arrow[d] & (f(a)=b) \arrow[d] \\
\sum_{\cancel{\alpha},\alpha':A} \underbrace{\cancel{(f(a)=f(\alpha))}}_{a=\alpha} \times (b=f(\alpha')) \times (g(\cancel{\alpha}^{a})=g(\alpha')) \arrow[r] & code(f(a),b)
\end{tikzcd}$$

becomes (note, A is a set and fin! so $\sum_{\alpha:A}(f(a)=f(\alpha))$ has only one element)

$$\begin{tikzcd}
(b=f(a)) \arrow[r] \arrow[d] & (f(a)=b) \arrow[d] \\
\sum_{\alpha':A} (b=f(\alpha')) \times (g(a)=g(\alpha')) \arrow[r] & Code(f(a),b)
\end{tikzcd}$$

This p.o. is empty if b not in image of f.
If it is in image of f, then what?

There's cases, but I couldn't follow my notes