Lemma by Roland

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Lemma w/ $A=\langle w,c\rangle/[w,c]=w$ and $c^*=b$, $w^*=u$, have

$$(c^m w^n)^* = \frac{b^m u^n}{m!\,[n]_q!} \quad \left(\text{with } q=e^{\epsilon}\right)$$

That is,

$$\langle c^m w^n, b^k u^l\rangle = \delta_{mk}\delta_{nl}\, m!\,[n]_q!$$

$$\langle w^n, u^l\rangle = \langle \Delta^l w^n, u^{\otimes l}\rangle = \delta_{nl}\, n!\, q^{\binom{n}{2}}$$

?

$$\Delta(w^2)=\Delta(w)\Delta(w)=$$
$$(q\otimes w+w\otimes 1)(q\otimes w+w\otimes 1)$$

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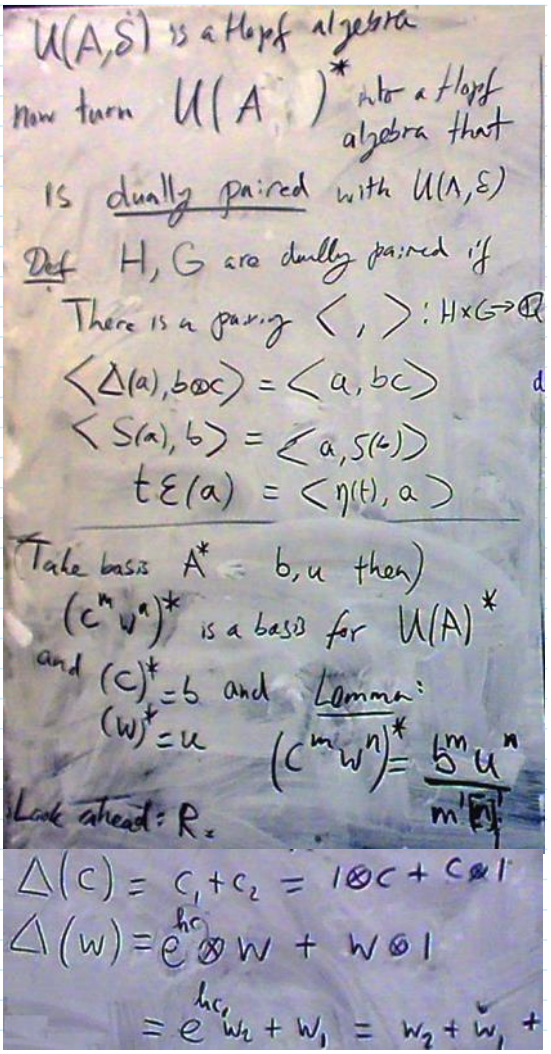

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