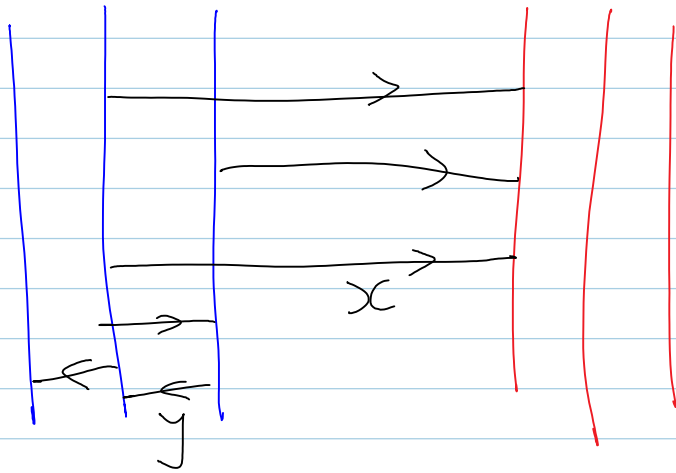


# Capping in the Playground

August-27-11  
1:56 PM



$Y \times X$   
 $X$  is Abelian

Hello  
Education is important

$[x, y] = \text{Some combination of } x's$

In 2D  $e^{\alpha X + \beta Y}$

$$\begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}, \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix} = \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}$$

$y \quad x \quad x$

```
In[1]= MatrixExp[{{a b}, {0 0}}] //
MatrixForm
```

```
Out[1]/MatrixForm=

$$\begin{pmatrix} e^a & \frac{b(-1+e^a)}{a} \\ 0 & 1 \end{pmatrix}$$

```

$$e^{\begin{pmatrix} \alpha & \beta \\ 0 & 0 \end{pmatrix}} = \begin{pmatrix} e^\alpha & \frac{\beta}{\alpha} e^\alpha - \frac{\beta}{\alpha} \\ 0 & 1 \end{pmatrix} \xrightarrow{\alpha \rightarrow 0} \begin{pmatrix} 0 & \beta \\ 0 & 0 \end{pmatrix}$$

$$\begin{pmatrix} e^\alpha & 0 \\ 0 & 1 \end{pmatrix} \cdot \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

will probably come to

$$\eta + \zeta \mapsto \begin{pmatrix} e^{ad^\eta} - 1 \\ ad^\eta \end{pmatrix} \begin{pmatrix} \zeta \end{pmatrix}$$

$$e^{\eta+\zeta} e^{-\eta} = e^{\zeta} \quad \text{ie.} \quad e^{\eta+\zeta} = e^{\zeta} e^{\eta}$$

So mod capping, this is  $e^{\zeta}$

