RMSprop

$On\ iteration\ t:$

$Compute\ dW, db\ on\ mini-batch$

$s_{dW} = \beta s_{dW} + (1-\beta)dW^2$ **element-wise square calculation**

$s_{db} = \beta s_{db} + (1-\beta)db^2$

$W := W - \alpha \frac{dW}{\sqrt{s_{dW}}+\epsilon}$ **add a small number to avoid divide by zero**

$b := b - \alpha \frac{db}{\sqrt{s_{db}}+\epsilon}$