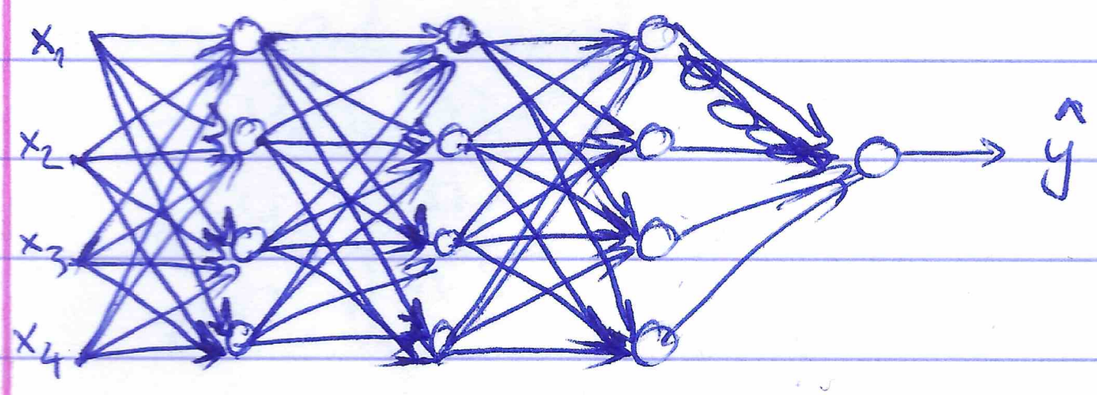
Building Blocks of DNNs

Deep



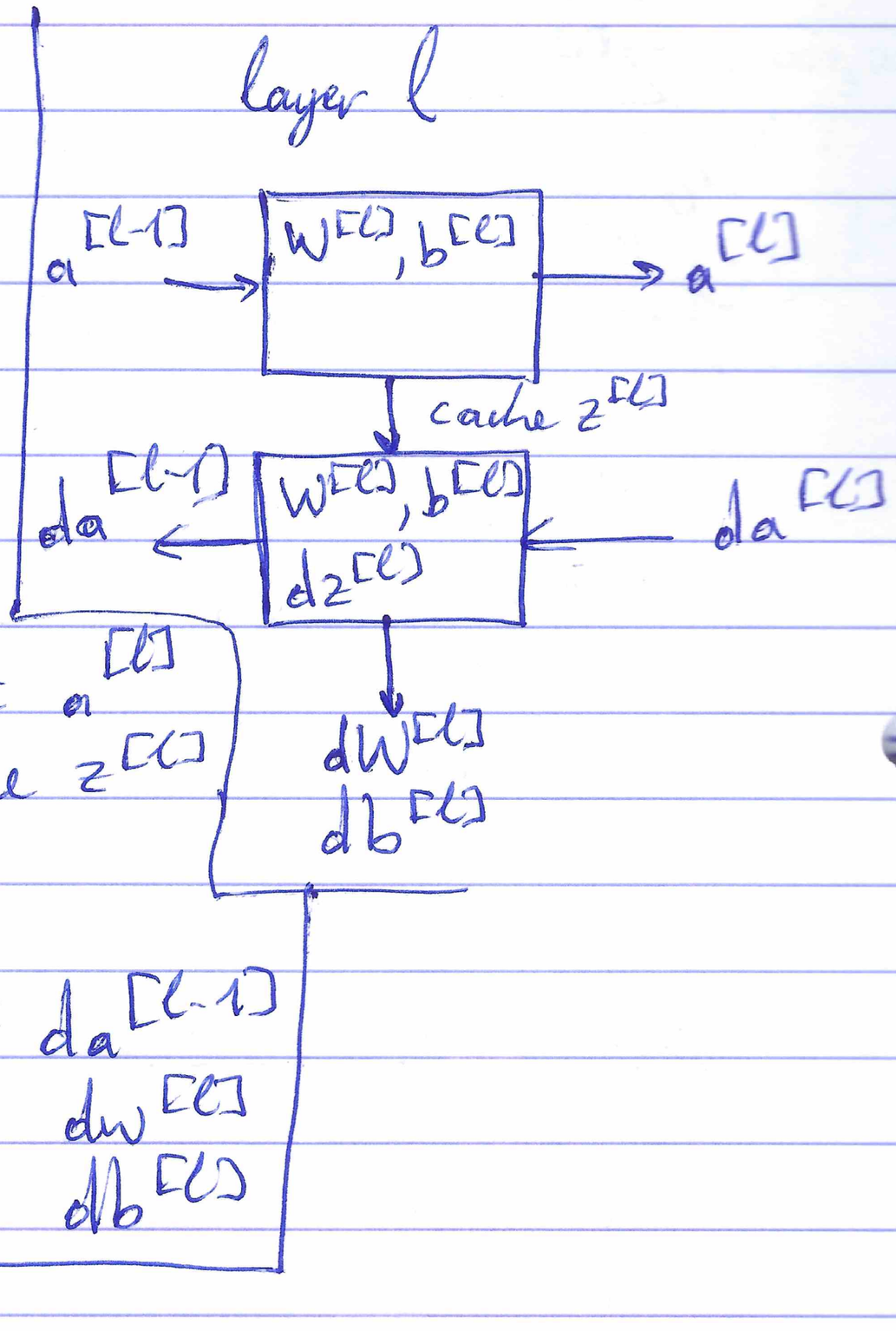
Layer l: $W^{[l]}, b^{[l]}$

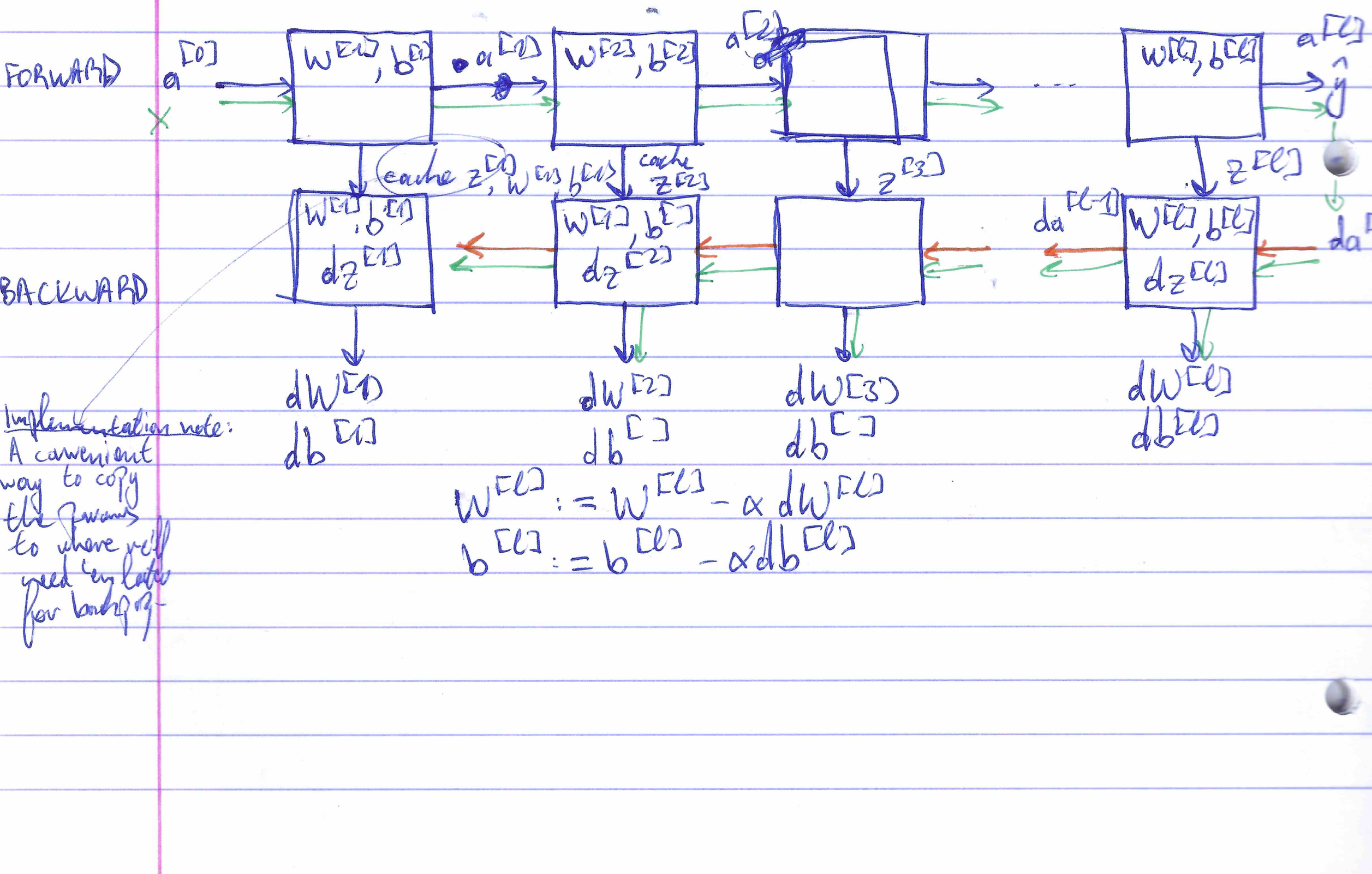
Forward: input $a^{[l-1]}$, output $a^{[l]}$, cache $z^{[l]}$

$z^{[l]} = W^{[l]} a^{[l-1]} + b^{[l]}$

$a^{[l]} = g^{[l]}(z^{[l]})$

Backward: input $da^{[l]}$, cache($z^{[l]}$), output $da^{[l-1]}$, $dw^{[l]}$, $db^{[l]}$





Implementation note:
A convenient way to copy the forwards to where you'll need them later for backprop.

$W^{[l]} := W^{[l]} - \alpha\, dW^{[l]}$

$b^{[l]} := b^{[l]} - \alpha\, db^{[l]}$