Color Conversion Example

\[
\begin{align*}
R &= 1.164(Y-16) + 1.596(G-128) \\
G &= 1.164(Y-16) - 0.813(B-128) - 0.392(G-128) \\
B &= 1.164(Y-16) + 2.017(B-128)
\end{align*}
\]

Data flow graph

How fast is the circuit?
How can we speed it up? Pipelining!

* Increase LATEENCY of circuit
* Increase THROUGHPUT
Color Conversion

What if values are saturated?

Y, C, C, Y, C, C, ...

R, G, B, ...

Are we wasting resources?

1 computation / 3 clock cycles

5x, 5x1-