Back to Addition:

```
 Sum(7 downto 0) <= A(7 downto 0)
                    xor B(7 downto 0)
                    xor C(7 downto 0);
 C(7 downto 0) <= (A(7 downto 0) and
                     B(7 downto 0)
                    )
             or (A(7 downto 0) and
                 (C(6 downto 0) & Cin)
                )
             or (B(7 downto 0) and
                 (C(6 downto 0) & Cin)
                );
 Cout <= C(7);   -- just for fun
```

Pretty verbose huh?
With proper declarations:

```
 Sum <= A xor B xor
        (C(6 downto 0) & Cin);
 C <= (A and B) or
     (A and (C(6 downto 0) & Cin)) or
     (B and (C(6 downto 0) & Cin));
 Cout <= C(7);
```