Please find below the set of algebraic equations for the flattened Even-NumberGen CBD:

$$\begin{cases} var(b.O_1)^{[s+1]} &=& var(a.I_C)^{[0]} \\ var(c.O_1)^{[s+1]} &=& var(a.I_1)^{[s]} \\ var(a.O_1)^{[s+1]} &=& var(c.I_1)^{[s+1]} \\ var(d.O_1)^{[s+1]} &=& var(c.I_2)^{[s+1]} \\ var(a.O_1)^{[s+1]} &=& var(e.I_1)^{[s+1]} \\ var(f.O_1)^{[s+1]} &=& var(g.I_1)^{[s+1]} \\ var(h.O_1)^{[s+1]} &=& var(g.I_2)^{[s+1]} \\ var(e.O_1)^{[s+1]} &=& var(h.I_1)^{[s+1]} \\ var(g.O_1)^{[s+1]} &=& var(i.I_1)^{[s+1]} \\ var(k.O_u)^{[s+1]} &=& var(j.I_1)^{[s+1]} \\ var(a.O_1)^{[s+1]} &=& var(a.I_1)^{[s]} \\ var(a.O_1)^{[0]} &=& var(a.I_C)^{[0]} \\ var(c.O_1)^{[s+1]} &=& var(c.I_1)^{[s+1]} + var(c.I_2)^{[s+1]} \\ var(d.O_1)^{[s+1]} &=& 1.0 \\ var(b.O_1)^{[s+1]} &=& 0.0 \\ var(f.O_1)^{[s+1]} &=& 2.0 \\ var(g.O_1)^{[s+1]} &=& var(g.I_1)^{[s+1]} \times var(g.I_2)^{[s+1]} \end{cases}$$

Given:

- Block **counter.delay** is represented by variable **a**

- Block **counter.zero** is represented by variable **b**

- Block **counter.sum** is represented by variable **c**

- Block **counter.one** is represented by variable **d**

- Block **counter.OutCount** is represented by variable **e**

- Block **double.two** is represented by variable **f**

- Block **double.mult** is represented by variable **g**

- Block **double.InNumber** is represented by variable **h**

- Block **double.OutDouble** is represented by variable **i**

- Block **OutEven** is represented by variable **j**

- Block **double** is represented by variable **k**