

Please find below the set of algebraic equations for the flattened Random CBD:

$$\left\{ \begin{array}{lcl} var(b.O_1)^{[s+1]} & = & var(a.I_C)^{[0]} \\ var(c.O_1)^{[s+1]} & = & var(a.I_1)^{[s]} \\ var(e.O_1)^{[s+1]} & = & var(d.I_1)^{[s+1]} \\ var(a.O_1)^{[s+1]} & = & var(d.I_2)^{[s+1]} \\ var(d.O_1)^{[s+1]} & = & var(f.I_1)^{[s+1]} \\ var(g.O_1)^{[s+1]} & = & var(f.I_2)^{[s+1]} \\ var(f.O_1)^{[s+1]} & = & var(c.I_1)^{[s+1]} \\ var(h.O_1)^{[s+1]} & = & var(c.I_2)^{[s+1]} \\ var(c.O_1)^{[s+1]} & = & var(i.I_1)^{[s+1]} \\ var(a.O_1)^{[s+1]} & = & var(a.I_1)^{[s]} \\ var(a.O_1)^{[0]} & = & var(a.I_C)^{[0]} \\ var(d.O_1)^{[s+1]} & = & var(d.I_1)^{[s+1]} \times var(d.I_2)^{[s+1]} \\ var(e.O_1)^{[s+1]} & = & 4 \\ var(b.O_1)^{[s+1]} & = & 8 \\ var(f.O_1)^{[s+1]} & = & var(f.I_1)^{[s+1]} + var(f.I_2)^{[s+1]} \\ var(g.O_1)^{[s+1]} & = & 1 \\ var(c.O_1)^{[s+1]} & = & var(c.I_1)^{[s+1]} \% var(c.I_2)^{[s+1]} \\ var(h.O_1)^{[s+1]} & = & 9 \end{array} \right.$$

Given:

- Block **del1** is represented by variable **a**
- Block **x0** is represented by variable **b**
- Block **mod1** is represented by variable **c**
- Block **prod1** is represented by variable **d**
- Block **a** is represented by variable **e**
- Block **add1** is represented by variable **f**
- Block **c** is represented by variable **g**
- Block **m** is represented by variable **h**
- Block **outRandom** is represented by variable **i**