

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

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

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**