Harshit Mavandia 2020CS10348

1)

$B.val \rightarrow num(0)$ or $num(1)$

$I.val \rightarrow I_1.val * 2 + B.val$

$I.val \rightarrow B.val$

$F.val \rightarrow B.val$

$F.val \rightarrow \frac{F.val}{2} + B.val$

$S.val \rightarrow \frac{F.val}{2}$

$S.val \rightarrow I.val$

$S.val \rightarrow I.val$

$S.val \rightarrow I.val + \frac{F.val}{2}$

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2)

$S \to .F \quad | \quad S.val = F.val$

$S \to I. \quad | \quad S.val = I.val$

$S \to I.F \quad | \quad S.val = I.val + F.val$

$I \to B \quad | \quad I.val = B.val$

$\qquad\qquad I.count = 1$

$I \to BI_1 \quad | \quad I.val = 2^{\wedge}(I_1.count) * B + I_1.val$

$\qquad\qquad I.count = I_1.count + 1$

$F \to B \quad | \quad F.val = \frac{B.val}{2}$

$\qquad\qquad F.count = 1$

$F \to F_1 B \quad | \quad F.val = 2^{\wedge}(-F_1.count) * B.val + F_1.val$

$\qquad\qquad F.count = F_1.count + 1$

$B \to 0 \quad | \quad B.val = num\ 0$

$B \to 1 \quad | \quad B.val = num\ 1$