

$$A = B * (C * (A + B))$$

Left most derivation (A)

$$\langle \text{assign} \rangle \Rightarrow \langle \text{id} \rangle = \langle \text{expr} \rangle$$
$$\Rightarrow A = \langle \text{expr} \rangle$$
$$= \langle \text{term} \rangle$$
$$= \langle \text{term} \rangle * \langle \text{factor} \rangle$$
$$= \langle \text{factor} \rangle * \langle \text{factor} \rangle$$
$$= \langle \text{id} \rangle * \langle \text{factor} \rangle$$
$$= B * \langle \text{factor} \rangle$$
$$= B * (\langle \text{expr} \rangle)$$
$$= B * (\text{2 term})$$
$$= B * (\langle term \rangle * \langle factor \rangle)$$
$$= \text{BX}(\langle \text{factor} \rangle * \langle \text{factor} \rangle)$$
$$- B^*(\langle id \rangle * \langle factor \rangle)$$
$$= B^*(C \oplus (K \text{ factor}))$$
$$= B * (C * (K \text{ expr}))$$
$$= B * (C * (\langle \text{expr} \rangle + \langle \text{term} \rangle))$$
$$= \text{BAX}(\text{C} * (\langle \text{term} \rangle + \langle \text{term} \rangle))$$
$$= B * (C * (\langle \text{factor} \rangle \mid \langle \text{term} \rangle))$$
$$= B * (C * (\text{?id}) + \langle \text{?term} \rangle))$$
$$= B * (C * (A + (2 * \text{crn})))$$
$$= B * (C * (A + \langle \text{factor} \rangle))$$
$$= \mathbb{R}^*(C^*(A + \langle \text{id} \rangle))$$
$$= B * (C * (A + B))$$
