

1 EXAMPLES OF *chi* CALCULATION

Here we have a code snippet of Python, i.e., $i_1 = a + b$; $i_2 = b + c$; $i = i_1 + i_2$; f stands for float, i stands for int. The example shows the transfer from the $\chi[i_1]$ and $\chi[i_2]$ to $\chi[i, f]$.

$$\begin{aligned}\chi[i_1, f] &= \{(a, f), (b, i)\}, \{(a, f), (b, f)\}, \{(a, i), (b, f)\}\} \\ \chi[i_2, f] &= \{(b, f), (c, i)\}, \{(b, f), (c, f)\}, \{(b, i), (c, f)\}\} \\ \chi[i_1, i] &= \{(a, i), (b, i)\}\} \\ \chi[i_2, i] &= \{(b, i), (c, i)\}\} \\ \chi[i, f] &= (\chi[i_1, f] \oplus \chi[i_2, f]) \cup (\chi[i_1, f] \oplus \chi[i_2, i]) \\ &\quad \cup (\chi[i_1, i] \oplus \chi[i_2, f]) \\ &= \{(a, f), (b, f), (c, i)\}, \{(a, f), (b, f), (c, f)\}\} \\ &\quad \cup \{(a, f), (b, i), (c, i)\}, \{(a, f), (b, i), (c, f)\}\} \\ &\quad \cup \{(a, i), (b, i), (c, f)\}\} \\ &= \{(a, f), (b, f), (c, i)\}, \{(a, f), (b, f), (c, f)\}, \\ &\quad \{(a, f), (b, i), (c, i)\}, \{(a, f), (b, i), (c, f)\}, \\ &\quad \{(a, i), (b, i), (c, f)\}\}\end{aligned}$$