Returned: Integer

Principle types:

a: $\left[(\text{int}),(\text{int}\to\text{int}),(\text{int}\to\text{int}),(\text{int}\to\text{int}),(\text{int}\to\text{int})\right]\to\text{int}$

b: $(\ )\to\text{int}$

c: $(\text{int})\to\text{int}$

Types proof using type checking

$$R_{cond}\dfrac{R_{>}\dfrac{R_{\text{int}}\dfrac{\overline{10:\text{int}}}{\text{let } k=10 \text{ in } k>0}\ \overline{0:\text{int}}}{(k>0):\ bool}\quad R_{gen}\dfrac{R_{+}\dfrac{R_{gen}\dfrac{\cdot\vdash x3:\text{int}}{\forall\alpha.x3:\text{int}}\,R_{gen}\dfrac{\cdot\vdash x3:\text{int}}{\forall\alpha.x4:\text{int}}}{\cdot, x3:\text{int}, x4:\text{int}\vdash b:\text{int}}}{\forall\alpha.b:\text{int}}\quad R_{+}\dfrac{R_{gen}\dfrac{\cdot\vdash x3:\text{int}}{\forall\alpha.x3:\text{int}}\,R_{gen}\dfrac{\cdot\vdash x3:\text{int}}{\forall\alpha.x4:\text{int}}}{x3+x4:\text{int}}}{\cdot\vdash \text{if } (k>0) \text{ then } b \text{ else } x3+x4:\text{int}}$$