Combinatori

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Forma di Backus-Naur

$$\mathrm{T} ::= \mathrm{V} \mid \lambda \mathrm{V}.\, \mathrm{T} \mid (\mathrm{T}\,\mathrm{T})$$

λ calcolo

$$\begin{aligned}
\mathrm{I} &\coloneqq \lambda x.\, x \\
\mathrm{K} &\coloneqq \lambda x.\, \lambda y.\, x \\
\mathrm{S} &\coloneqq \lambda xyz.\, x\, z\, (y\, z) \\
\mathrm{B} &\coloneqq \lambda xyz.\, x\, (y\, z) \\
\mathrm{C} &\coloneqq \lambda xyz.\, x\, z\, y \\
\mathrm{W} &\coloneqq \lambda xy.\, x\, y\, y \\
\omega &\coloneqq \lambda x.\, x\, x \\
\Omega &\coloneqq (\lambda x.\, x\, x)\, (\lambda x.\, x\, x) \\
\mathrm{Y} &\coloneqq \lambda f.\, (\lambda x.\, f\, (x\, x))\, (\lambda x.\, f\, (x\, x)) \\
\Theta &\coloneqq (\lambda xy.\, y\, (x\, x\, y))\, (\lambda xy.\, y\, (x\, x\, y))
\end{aligned}$$

SKI caclolo

$$\begin{aligned}
\mathrm{I} &\coloneqq \mathrm{S}\,\mathrm{K}\,\mathrm{K} \\
\mathrm{Y} &\coloneqq \mathrm{S}\,(\mathrm{K}\,(\mathrm{S}\,\mathrm{I}\,\mathrm{I}))\,(\mathrm{S}\,(\mathrm{S}\,(\mathrm{K}\,\mathrm{S})\,\mathrm{K})\,(\mathrm{K}\,(\mathrm{S}\,\mathrm{I}\,\mathrm{I})))
\end{aligned}$$