Numeri di macchina

$$\mathcal{F}(\beta,t,m,M)=\{0\}\cup\left\{x\in\mathbb{R}\;\middle|\;x=\operatorname{sgn}(x)\beta^p\sum_{i=1}^{t}d_i\beta^{-i},\ d_1\neq 0,\ 0\leq d_i<\beta,\ -m\leq p\leq M\right\}$$

Indichiamo con Ω e ω rispettivamente il massimo e minimo valore rappresentabile:

$$\Omega=\beta^M\sum_{i=1}^{t}(\beta-1)\beta^{-i}=\beta^M(1-\beta^{-t})\qquad\omega=\beta^{-m}0.1_\beta=\beta^{-m-1}.$$

Vale:

$$|\mathcal{F}(\beta,t,m,M)|=\underbrace{1}_{0}+\underbrace{2}_{\pm}\underbrace{(M+m+1)}_{\#p}\underbrace{(\beta-1)\beta^{t-1}}_{\#f}.$$