

Exercise 1

- a) This is our Assignment!
- i) We can now use pretty versions of φ and ε , the round version of φ is also available: ϕ .

Common logic symbols are easy to use:

If $\text{FO} \supseteq \Phi \models \mathfrak{A}$ for some infinite \mathfrak{A} , then for every cardinal $\kappa \geq |\mathfrak{A}|$ there exists a $\mathfrak{B} \models \Phi$ with $|\mathfrak{B}| \geq \kappa$.

And the same is true for complexity classes:

For any function $f(n) \in \Omega(\log n)$,

$\text{NSPACE}(f(n)) = \text{coNSPACE}(f(n))$ and $\text{NSPACE}(f(n)) \subseteq \text{SPACE}(f(n)^2)$.

We can also make some graphs:

