
Subtyping

There are 2 tasks, you can pick one of them and send a solution to a_jarocki@poczta.pl. The deadline is Sunday, May 4.

TASK 1

Implement an interpreter for $FOb_{1<}$: terms with support for classes and inheritance. Then implement a cell classes and myCell object from example shown on slides.

After you're done, try implementing a class representing rectangle with width and length fields and getter, setter methods for them. Also implement a square class that inherits from rectangle. What is the problem here? (hint: see Liskov substitution principle).

TASK 2

Give a formal proof of all lemmas defined in the slides ($MinOb_{1<}$: typings are $Ob_{1<}$: typings, $MinOb_{1<}$: has unique types, $MinOb_{1<}$: has smaller types than $Ob_{1<}$, bound weakening and substitution).