cs350 Assignment #1

Marco Patrignani

- Expand the source language of the backtranslation example with a ML-like heap, where locations are abstract;

- Expand the target language of the backtranslation example with a concrete heap, where locations are natural numbers;

- Further expand the target language with capabilities protecting locations. When created, a location is not protected. A (new) special instruction takes a location and protects it with a capability. Reading and writing a location now take an additional parameter that can be a capability. If a location is protected with a capability, reading and writing only succeed if the right capability is supplied.

- In both cases, enrich the languages with allocation, assignment and dereference constructs as well as their operational rules;

- In the first case, add typing rules;

- Add whatever seems necessary for the formalism to hold.