

1 Syntax of Commands

theory *Com* = *Main*:

typedecl *loc*

— an unspecified (arbitrary) type of locations (addresses/names) for variables

types

val = *nat* — or anything else, *nat* used in examples

state = *loc* \Rightarrow *val*

aexp = *state* \Rightarrow *val*

bexp = *state* \Rightarrow *bool*

— arithmetic and boolean expressions are not modelled explicitly here,

— they are just functions on states

datatype

```
com = SKIP                                (skip)
  | Assign loc aexp                        (_ ::= _ 60)
  | Semi com com                            (_; _ [60, 60] 10)
  | Cond bexp com com                      (if _ then _ else _ 60)
  | While bexp com                          (while _ do _ 60)
```

end