1 Syntax of Commands

theory *Com = Main:*

typedecl *loc*
— an unspecified (arbitrary) type of locations (adresses/names) for variables

types

```
val   = nat — or anything else, nat used in examples
state = loc ⇒ val
aexp  = state ⇒ val
bexp  = state ⇒ 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