



# mila+

MI-GEN cviceni 2 [majpetr@fit.cvut.cz](mailto:majpetr@fit.cvut.cz)




# Mila+

- Extension of mila, with:
  - Functions
  - Return statements
  - Optional semicolons
  - Last expression as return statement

```
function a(i, j) i + j
```

```
function a(i, j) begin  
    return i + j;  
end
```



```

MODULE ::= { FUNCTION } { DECLARATION } BLOCK
FUNCTION ::= function ident '(' [ ident {, ident} ] ')' STATEMENT
DECLARATION ::= const ident = number {, ident = number }
               | var ident {, ident }
STATEMENT ::= ident := EXPRESSION
               | write EXPRESSION
               | read ident
               | if EXPRESSION then STATEMENT { else STATEMENT }
               | while EXPRESSION do STATEMENT
               | BLOCK
               | return EXPRESSION
               | EXPRESSION
BLOCK ::= begin { DECLARATION } { STATEMENT } end
EXPRESSION ::= E1 { (= | <> | < | > | <= | =>) E1 }
E1 ::= E2 { (+ | -) E2 }
E2 ::= E3 { ( * | / ) E3 }
E3 ::= { + | - } FACTOR
FACTOR ::= ident
               | number
               | '(' EXPRESSION ')'
               | CALL
CALL ::= ident '(' [ EXPRESSION {, EXPRESSION} ] ')'

```