

```
#|  
<expr> ::= (num <num>)  
          | (add <expr> <expr>)  
          | (sub <expr> <expr>)  
          | (mult <expr> <expr>)  
          | (if0 <expr> <expr> <expr>)  
          | (id <id>)  
          | (fun <sym> <expr>)  
          | (app <expr> <expr>)  
          | (rec <id> <expr> <expr>)
```

```
|#  
;; Inductive type for representing (the abstract syntax  
;; of) an aritmetical language with first-class functions
```

```
(deftype Expr  
  (num n)  
  (add l r)  
  (sub l r)  
  (mult l r)  
  (if0 c t f)  
  (id x)  
  (fun arg body)  
  (app f-name f-arg)  
  (rec id named-expr body))
```