<u>פרויקט בקומפילציה</u>
<u>חלק 1</u>

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קלט תקין

```
proc foo(x, y, z: int; f: real){
    if (x>y) {
        x = x + f;
    }
    else {
        y = x + y + z;
        x = f*2;
        z = f;
    }
}
func goo() return char{
    return 'a';
}
```

פלט

```
(CODE
 (PROC
  (foo
   (ARGS
    (int
     (x
      (y
       (z ))
)
     (real
      (f ))
)
)
   (IF-ELSE
    (>
     (x )    (y ))
    (=
     (x )    (+
     (x )     (f ))
)
    (=
     (y )    (+
     (x )     (+
     (y )     (z ))
)
```

```
)
   (=
    (x )    (*
     (f )     (2 ))
  )
   (=
    (z )    (f ))
 )
 )
 )
 (FUNC
  (goo
   (ARGS
    (NONE ))
   (RET
    (char )   (RET
     ('a' ))
 )
 )
 )
 )
```

```
proc foo(x, y, z: int; f: real)
{
   if (x>y)
   {
     var x: int;
     var y: int;
     x = x + y;
     return 0;
   }
   else
   {
     x = 2;
     x = ^y
   }
}
```

```
(CODE
 (PROC
  (foo
   (ARGS
    (int
     (x
      (y
       (z ))
)
     (real
      (f ))
)
)
   (IF-ELSE
    (>
     (x )    (y ))
    (var
     (x )    (int ))
    (var
     (y )    (int ))
    (=
     (x )    (+
      (x )     (y ))
)
    (RET
     (0 ))
    (=
     (x )    (2 ))
    (=
     (x )    (^ )    (y ))
)
)
)
)
```

```
func foo(i, j, k : int) return int
{
    func square(t : int) /% func/proc declarations %/ return int
    {
        var temp : int;
        temp = t*t;
        foo(a);
        return 0;
    }
    var total : int; /% variable declarations %/
    total = 1; /% statements %/
    return total;
}
```

```
(CODE
 (FUNC
  (foo
   (ARGS
    (int
     (i
      (j
       (k ))
)
)
)
   (RET
    (int )   (FUNC
     (square
      (ARGS
       (int
        (t ))
```

```
)
   (RET
   (int )     (var
    (temp )      (int ))
   (=
    (temp )       (*
     (t )       (t ))
)
   (FUNC
    (foo )       (a ))
   (RET
    (0 ))
)
)
)
  (var
   (total )    (int ))
  (=
   (total )    (1 ))
  (RET
   (total ))
)
)
)
)
```

```
func foo(n: int) return int
{
  while (i < n)
  {
    a = b;
    b = a + b;
    i = i + 1;
    var y : string[10];
    s = &y[5];
  }
  return a;
}
```

```
(CODE
 (FUNC
  (foo
   (ARGS
    (int
     (n ))
)
   (RET
    (int )   (WHILE
    (<
     (i )    (n ))
    (=
     (a )    (b ))
    (=
     (b )    (+
     (a )     (b ))
)
    (=
     (i )    (+
     (i )     (1 ))
)
    (var
     (y )    (string ))
    (=
     (s )    (& )    (y ))
)
    (RET
     (a ))
)
)
)
)
```

```
func foo(i, j, k : int) return int
{
    func fee(l, m, n : int) return bool
    {
        {
            x = 2;
        }
        return true;
    }
    return 0;
}
```

```
(CODE
 (FUNC
  (foo
   (ARGS
    (int
     (i
      (j
       (k ))
)
)
)
   (RET
    (int )    (FUNC
     (fee
      (ARGS
       (int
        (l
         (m
          (n ))
)
)
)
       (RET
        (bool )    (BLOCK
         (=
```

```
        (x )        (2 ))
)
      (RET
       (true ))
)
)
)
    (RET
     (0 ))
)
)
)
)
```

קלט לא תקין

קלט

```
func 9goo() return int
{
    return 100;
}
```

פלט

```
Error: syntax error at line 1
Dos not accept '9'
```

קלט

```
proc foo(i, j, k)
{
    i = j + k;
}
```

פלט

```
Error: syntax error at line 1
Dos not accept ')'
```

קלט

```
func foo(x : int) return int
{
    x = 0;
}
```

פלט

```
Error: syntax error at line 4
Dos not accept '}'
```