Trabalho 2 - Parte 1

UNIVERSIDADE DE SÃO PAULO

Departamento de Ciências de Computação e Estatística

SCC - 205 Teoria da Computação e Linguagens Formais

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Sumário

Parte 1

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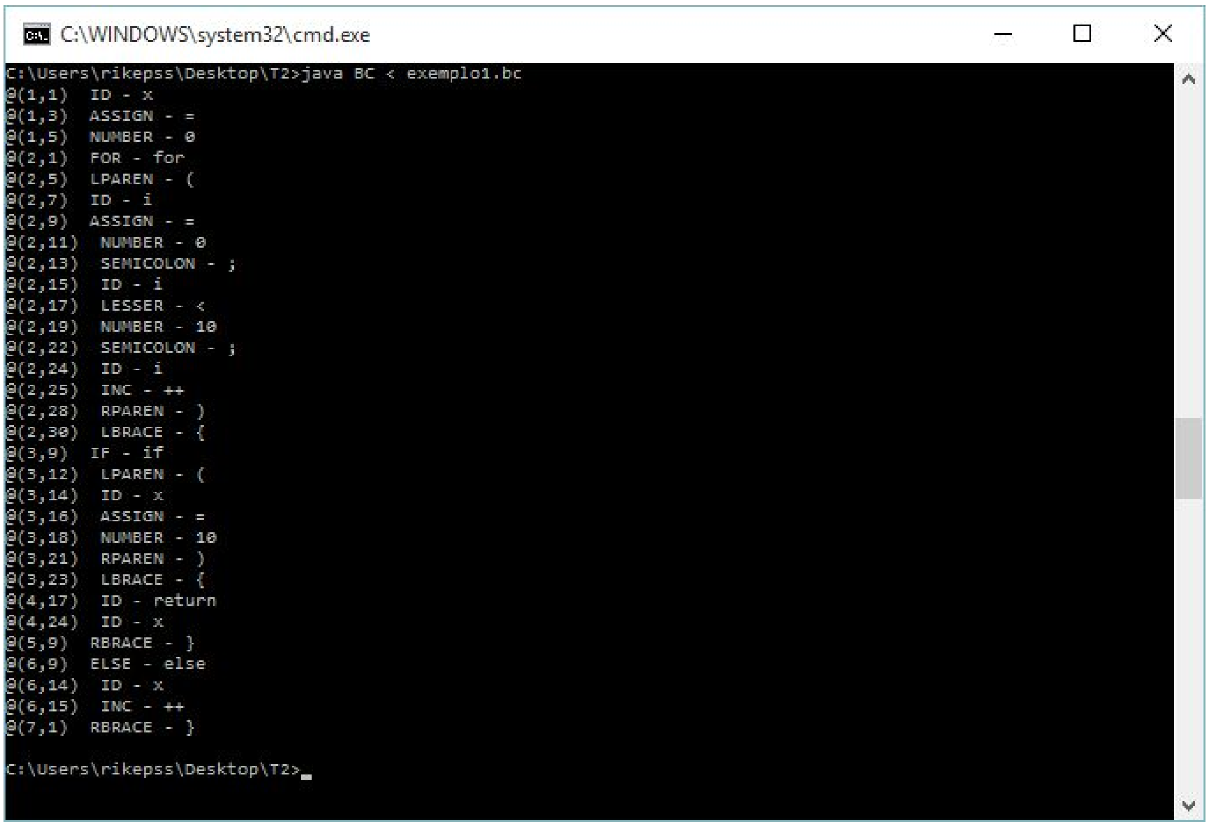
1. Programas de teste

Teste 1
Programa:

```
x = 0
for ( i = 0 ; i < 10 ; i++ ) {
        if ( x = 10 ) {
                return x
        }
        else x++
}
```

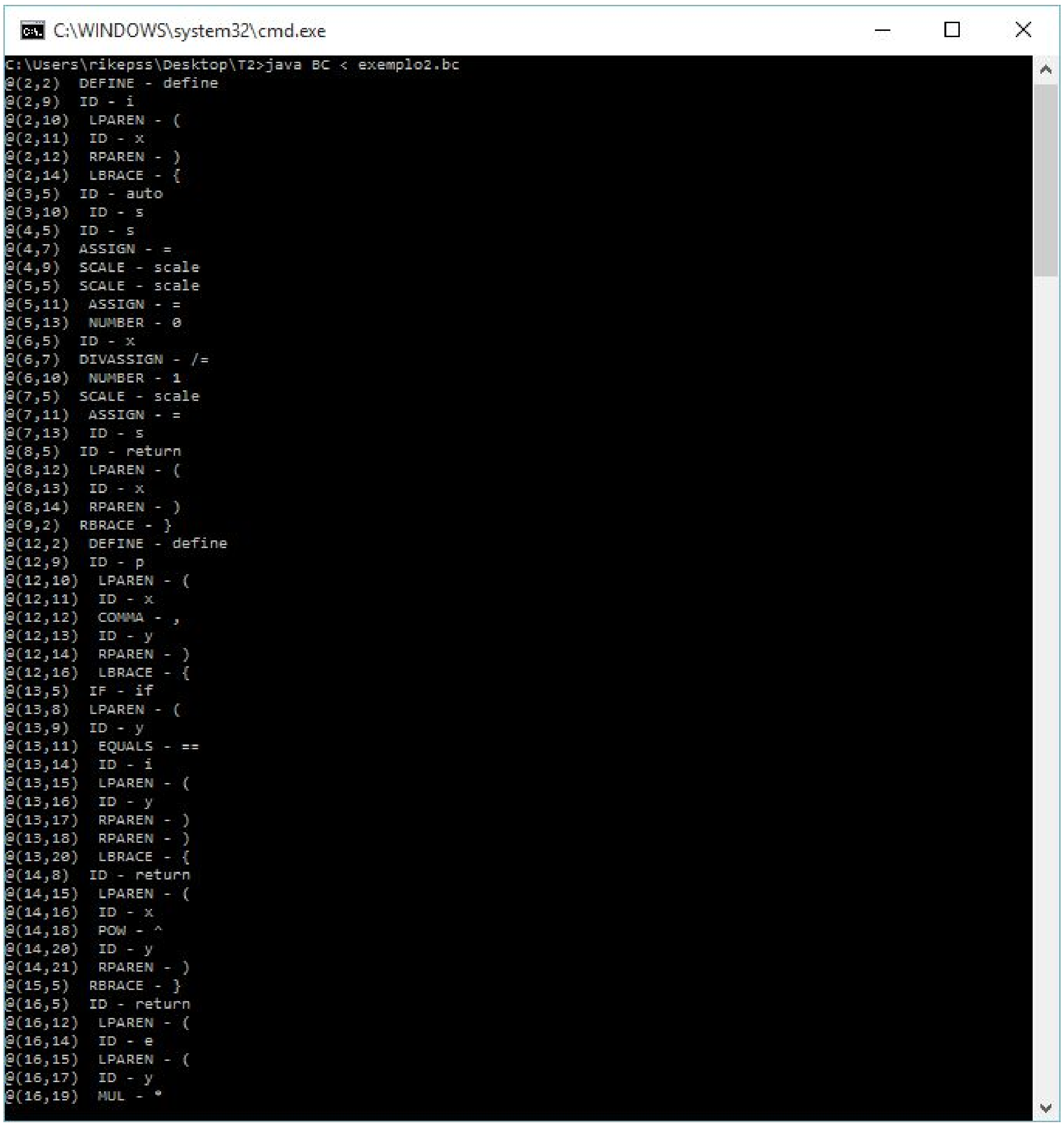


```
C:\Users\rikepss\Desktop\T2>java BC < exemplo1.bc
@(1,1)  ID - x
@(1,3)  ASSIGN - =
@(1,5)  NUMBER - 0
@(2,1)  FOR - for
@(2,5)  LPAREN - (
@(2,7)  ID - i
@(2,9)  ASSIGN - =
@(2,11)  NUMBER - 0
@(2,13)  SEMICOLON - ;
@(2,15)  ID - i
@(2,17)  LESSER - <
@(2,19)  NUMBER - 10
@(2,22)  SEMICOLON - ;
@(2,24)  ID - i
@(2,25)  INC - ++
@(2,28)  RPAREN - )
@(2,30)  LBRACE - {
@(3,9)  IF - if
@(3,12)  LPAREN - (
@(3,14)  ID - x
@(3,16)  ASSIGN - =
@(3,18)  NUMBER - 10
@(3,21)  RPAREN - )
@(3,23)  LBRACE - {
@(4,17)  ID - return
@(4,24)  ID - x
@(5,9)  RBRACE - }
@(6,9)  ELSE - else
@(6,14)  ID - x
@(6,15)  INC - ++
@(7,1)  RBRACE - }

C:\Users\rikepss\Desktop\T2>_
```

Teste 2

Programa:

```
/* A function to return the integer part of x */
 define i(x) {
    auto s
    s = scale
    scale = 0
    x /= 1   /* round x down */
    scale = s
    return (x)
 }

 /* Use the fact that x^y == e^(y*log(x)) */
 define p(x,y) {
    if (y == i(y)) {
       return (x ^ y)
    }
    return ( e( y * l(x) ) )
 }
```



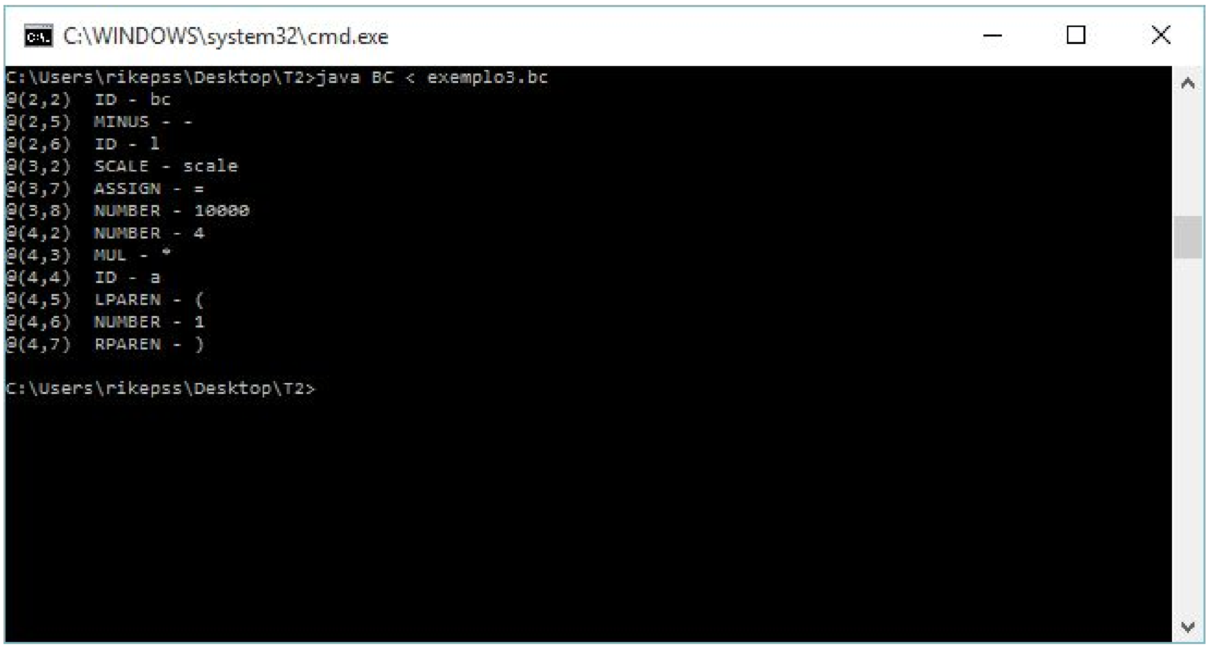
C:\WINDOWS\system32\cmd.exe

```
C:\Users\rikepss\Desktop\T2>java BC < exemplo2.bc
@(2,2)  DEFINE - define
@(2,9)  ID - i
@(2,10)  LPAREN - (
@(2,11)  ID - x
@(2,12)  RPAREN - )
@(2,14)  LBRACE - {
@(3,5)  ID - auto
@(3,10)  ID - s
@(4,5)  ID - s
@(4,7)  ASSIGN - =
@(4,9)  SCALE - scale
@(5,5)  SCALE - scale
@(5,11)  ASSIGN - =
@(5,13)  NUMBER - 0
@(6,5)  ID - x
@(6,7)  DIVASSIGN - /=
@(6,10)  NUMBER - 1
@(7,5)  SCALE - scale
@(7,11)  ASSIGN - =
@(7,13)  ID - s
@(8,5)  ID - return
@(8,12)  LPAREN - (
@(8,13)  ID - x
@(8,14)  RPAREN - )
@(9,2)  RBRACE - }
@(12,2)  DEFINE - define
@(12,9)  ID - p
@(12,10)  LPAREN - (
@(12,11)  ID - x
@(12,12)  COMMA - ,
@(12,13)  ID - y
@(12,14)  RPAREN - )
@(12,16)  LBRACE - {
@(13,5)  IF - if
@(13,8)  LPAREN - (
@(13,9)  ID - y
@(13,11)  EQUALS - ==
@(13,14)  ID - i
@(13,15)  LPAREN - (
@(13,16)  ID - y
@(13,17)  RPAREN - )
@(13,18)  RPAREN - )
@(13,20)  LBRACE - {
@(14,8)  ID - return
@(14,15)  LPAREN - (
@(14,16)  ID - x
@(14,18)  POW - ^
@(14,20)  ID - y
@(14,21)  RPAREN - )
@(15,5)  RBRACE - }
@(16,5)  ID - return
@(16,12)  LPAREN - (
@(16,14)  ID - e
@(16,15)  LPAREN - (
@(16,17)  ID - y
@(16,19)  MUL - *
```

Teste 3

Programa:

```
// The atan of 1 is 45 degrees, which is pi/4 in radians.
bc -l
scale=10000
4*a(1)
// This may take several minutes to calculate.
```

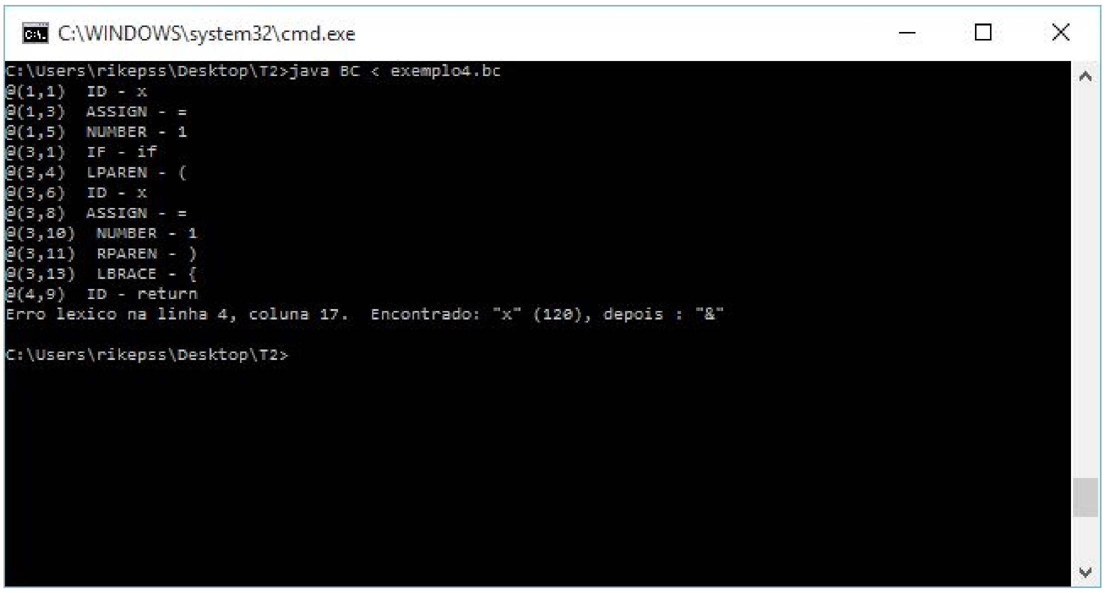


```
C:\Users\rikepss\Desktop\T2>java BC < exemplo3.bc
@(2,2)  ID - bc
@(2,5)  MINUS - -
@(2,6)  ID - l
@(3,2)  SCALE - scale
@(3,7)  ASSIGN - =
@(3,8)  NUMBER - 10000
@(4,2)  NUMBER - 4
@(4,3)  MUL - *
@(4,4)  ID - a
@(4,5)  LPAREN - (
@(4,6)  NUMBER - 1
@(4,7)  RPAREN - )

C:\Users\rikepss\Desktop\T2>
```

Teste 4

Programa:

```
1 x = 1
2
3 if ( x = 1) {
4         return &x;
5 }
6 else return 0;
```



```
C:\Users\rikepss\Desktop\T2>java BC < exemplo4.bc
@(1,1)  ID - x
@(1,3)  ASSIGN - =
@(1,5)  NUMBER - 1
@(3,1)  IF - if
@(3,4)  LPAREN - (
@(3,6)  ID - x
@(3,8)  ASSIGN - =
@(3,10)  NUMBER - 1
@(3,11)  RPAREN - )
@(3,13)  LBRACE - {
@(4,9)  ID - return
Erro lexico na linha 4, coluna 17.  Encontrado: "x" (120), depois : "&"

C:\Users\rikepss\Desktop\T2>
```