It takes me a week to write the pl0 compiler.There are total of 5,000 line of code that all writing by mysely. If you use my code , please Please indicate the source .Please repect me and I believ your Reputation as a progromer.
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pl0 functions: lexical analysis、syntax analyis、generate bytecodes(.class) base on jvm 、run java *.class
develop environment: ubuntu9.10 eclipse

This is a extension Pl0 compiler, suporting "for while repeat if-else function procedure ..."
and "char | boolean | integer | real types"
the following is my test codes:
Attention:
this struct of program is:

```
        program program_name;
                .... //put test codes here
        . //.is end symbol , please pay a attention here that . can not be followed by test code directly.
```

shortcoming：
I just build only one symbole table , so the variables can not the same in the plo source file . I pay attention to this , but I forgot it when I coding. And pl0 does not support global variable.

```
//const定义
const const_a=12,const_b=1.2,const_ch='c',const_bool=true;

//声明变量
var var_a:char,var_b:integer,var_c:real,var_d:boolean;

//赋值语句
var var_a:char,var_b:integer,var_c:real,var_d:boolean;
var_a := 'c'
var_b := 12
var_c := 1.2
var_d := true
write(var_a,var_b,var_c,var_d)

//begin语句
var var_a:char,var_b:integer,var_c:real,var_d:boolean;
begin
        var_a := 'c';
        var_b := 12;
        var_c := 1.2;
        var_d := true;
        write(var_a,var_b,var_c,var_d)
end

//write
var enter:char;
enter:='10'
write(1,enter,1.2,enter,'A',enter,true,enter)

var var_a:char,var_b:integer,var_c:real,var_d:boolean;
var_a := 'c'
var_b := 12
var_c := 1.2
var_d := true
write(enter,var_a,enter,var_b,enter,var_c,enter,var_d,enter)

write(enter,var_b*2,enter,var_a+var_b,enter,var_c-var_a,enter)

//read
var enter:char;
enter:='10'
var var_a:char,var_b:integer,var_c:real,var_d:boolean;
read(var_a,var_b,var_c,var_d)
```

```
write(enter,var_a,enter,var_b,enter,var_c,enter,var_d,enter)

//定义procedure子程序
procedure helloword();
        var h:char,l:char,w:char,e:char,o:char,r:char,d:char;
        begin
                h:='h';
                l:='l';
                w:='w';
                o:='o';
                e:='e';
                r:='r';
                d:='d';
                write(h,e,l,l,o,w,o,r,l,d)
        end
;

procedure println(var var_a:char,var var_b:integer,var var_c:real,var var_d:boolean);
        var enter:char;
        enter:='10'
        write(enter,var_a,enter,var_b,enter,var_c,enter,var_d,enter)
;
call println('A',123,12.2,true)

function func(var var_a:char,var var_b:integer,var var_c:real,var var_d:boolean):real;
        var var_e:real;
        var_e := var_a+var_b+var_c+var_d
;
return var_e
var var_f:real;
var_f := call func('A',1,1.2,true)   //函数返回值可以赋值给变量
write(var_f)

//求和子程序
function Sum(var fromV:integer,var toV:integer):integer;
        var sum:integer;
        sum := 0
        var i:integer;
        //for 循环
        for i:=fromV to toV do //增加了变量赋值
        begin
                sum := sum + i
        end;
;
return sum
var var_sum:integer;
var_sum := call Sum(1,101)
write(var_sum)

//NB 的 for 循环
/* 1. */
var space:char;
space:='32'
var i:integer;
for i:=1 to 10 do
begin
        write(i,space)
end;

/* 2. */
var space:char;
space:='32'
var i:integer;
var fromV:integer,toV:integer;
fromV:=1
toV:=10
for i:=fromV to toV do
```

```
begin
        write(i,space)
end;

/* 3. */
var space:char;
space:='32'
var i:integer;
var fromV:integer,toV:real;//toV是实型
fromV:=1
toV:=7.2
for i:=fromV to toV do
begin
        write(i,space)
end;

/* 4. */
var space:char;
space:='32'
var i:real;
var fromV:real,toV:real;//fromV toV是实型
fromV:=1.2
toV:=7.2
for i:=fromV to toV do
begin
        write(i,space)
end;
//在for循环结构中，只要不是将real 赋值给int就可以实现循环，类型是自动转换的

//if 语句
/* 1*/
if odd true then
        write(true)
else
        write(false)
/* 2. */
if odd -1 then //非0即为真
        write(true)
else
        write(false)
/* 3. */
var a:integer;
var b:integer;
a:= 10
b:= 1
if a>b then
        write(a)
else
        write(b)
//交换a b 的子程序
procedure swap(var a:integer,var b:integer);
        var temp:integer;
        var space:char;
        space:='32'
        if a>b then
                begin
                        temp := a;
                        a := b;
                        b := temp
                end
        else
                begin
                        write(space);//嵌套的If语句
                        if a=b then
                                write(1,space)
                        else
                                write(0,space)
```

```
                end
        write(a,space,b)
;
call swap(3,2)
call swap(2,3)
//if 不一一列举


//while 语句
//打印abc子程序
procedure printABC();
        var a:char;
        a:='A'
        while a<>'Z' do
                begin
                        write(a);
                        a:=a+1
                end;
call printABC()
//嵌套while子程序
procedure emWhile();
        var i:integer;
        i:=1
        var space:char;
        space:='32'
        var t:integer;
        t:=-1
        while i<10 do
                begin
                        write(i);
                        write(space);
                        i:=i+1;
                        while i<5 do
                                begin
                                        write(space);
                                        write(t);
                                        i:=i+1
                                end
                end
;
call emWhile()

//repeat 语句
var a:integer;
var b:integer;
a := 2
b := 10
repeat
        begin
                write(a);
                a:=a+1
        end
until a>b

//子程序的嵌套调用
function Sum(var fromV:integer,var toV:integer):integer;
        var sum:integer;
        sum := 0
        var i:integer;
        //for 循环
        for i:=fromV to toV do //增加了变量赋值
        begin
                sum := sum + i
        end;
;
return sum
procedure printABC();
```

```
        var a:char;
        a:='A'
        while a<>'Z' do
                begin
                        write(a);
                        a:=a+1
                end
        var var_sum:integer;
        var_sum := call Sum(1,101)
        write(var_sum)
;
call printABC()

//表达式支持复杂的运算 ， 条件运算也支持复杂的运算
var a:real;
var b:integer;
var c:char;
b := 1
c := 'A'
a := (b*2)/2+c-2*c+1
write(a)

//计算1*2*3*4....
function I(var n:integer):integer;
var i:integer;
var sum:integer;
sum := 1
n := n+1
for i:=1 to n do
        begin
                sum := sum * i
        end;
;
return sum
var s:integer;
s := call I(4)//1*2*3*4
write(s)

//递归子程序求1*2*3*4
function II(var n:integer):integer;
var i:integer;
var sum:integer;
var temp:integer;
var subn:integer;
if n = 1 then
        sum := 1
else
        begin
                sum := n;
                temp := n-1;
                temp := call II(temp);
                sum := sum * temp
        end
;
return sum
var s:integer;
s := call II(4) // 1*2*3*4
write(s)

//打印1 1 2 3 5 8 13 21 34 55 ..
procedure III(var n:integer);
var i1:integer;
var i2:integer;
i1 := 0
i2 := 1
var f:integer;
var i:integer;
```

```
f:=1
var space:char;
space := 32
for i:=1 to n do
        begin
                write(f);
                write(space);
                f := i1+i2;
                i1 := i2;
                i2 := f
        end;
;
var s:integer;
s := 10
call III(s)

//输入控制分支
procedure printInput();
        var y:char,o:char,u:char,i:char,n:char,p:char,t:char,space:char;
        y:='y'
        o:='o'
        u:='u'
        i:='i'
        n:='n'
        p:='p'
        u:='u'
        t:='t'
        space:=32
        write(y,o,u,space,i,n,p,u,t,space)
;
var x:integer;
read(x)
call printInput()
if x <> 'n' then
        write('n')
else
        write('y')
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```