

Code Generation Assignment on Ven

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Computer science level 4

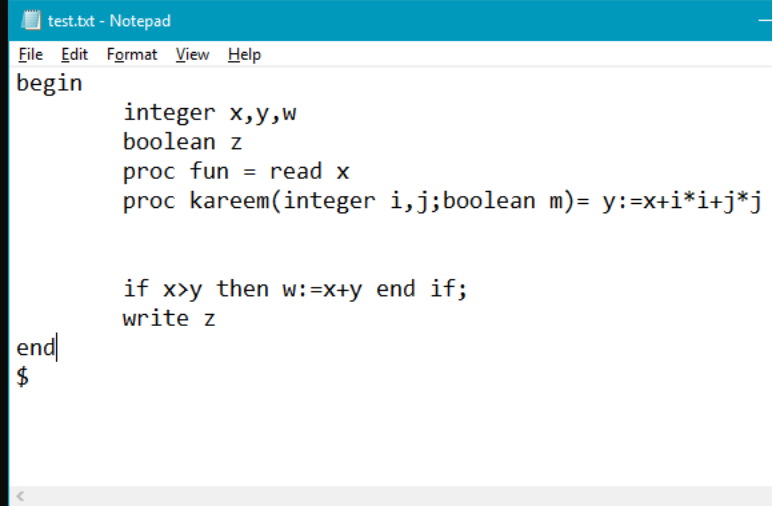
Advanced compiler

-Some issues:

It works fine with one block .

```
; matched ttype
write matched ttype
z (Identifier) matched ttype
end matched ttype

x is found in the Symbol table!
y is found in the Symbol table!
j is found in the parameter list!
j is found in the parameter list!
i is found in the parameter list!
i is found in the parameter list!
x is found in the Symbol table!
y is found in the Symbol table!
x is found in the Symbol table!
w is found in the Symbol table!
y is found in the Symbol table!
x is found in the Symbol table!
z is found in the Symbol table!
----NULL node ----
w
Display code generation :
GT x y T1
IFN T1 GOTOL1
ADD x y T2
ASSIGN T2 w
WRITE z
Press any key to continue . . .
```



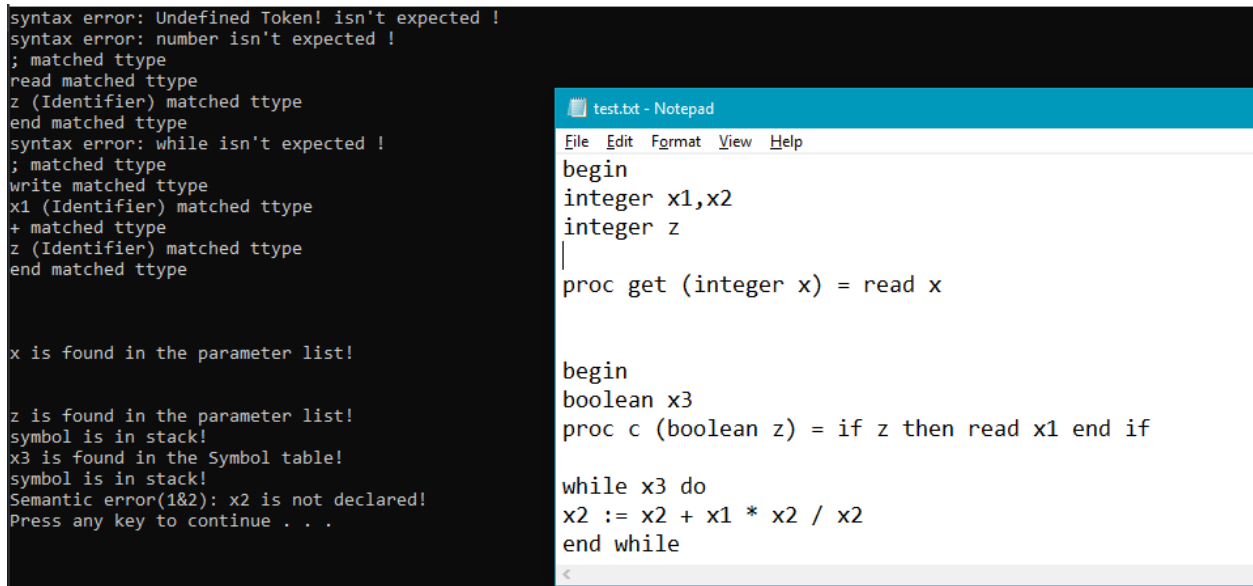
The screenshot shows a Notepad window titled 'test.txt - Notepad'. The window contains the following code:

```
begin
    integer x,y,w
    boolean z
    proc fun = read x
    proc kareem(integer i,j;boolean m)= y:=x+i*i+j*j

    if x>y then w:=x+y end if;
    write z
end|
$
```

But when i use more than one block ,I face some issues

I am working on it , But this is where I got now.



The image shows a terminal window on the left and a Notepad window on the right. The terminal window displays the output of a compiler, showing several syntax and semantic errors. The Notepad window shows the source code of a program in a Pascal-like language.

```
syntax error: Undefined Token! isn't expected !
syntax error: number isn't expected !
; matched ttype
read matched ttype
z (Identifier) matched ttype
end matched ttype
syntax error: while isn't expected !
; matched ttype
write matched ttype
x1 (Identifier) matched ttype
+ matched ttype
z (Identifier) matched ttype
end matched ttype

x is found in the parameter list!

z is found in the parameter list!
symbol is in stack!
x3 is found in the Symbol table!
symbol is in stack!
Semantic error(1&2): x2 is not declared!
Press any key to continue . . .
```

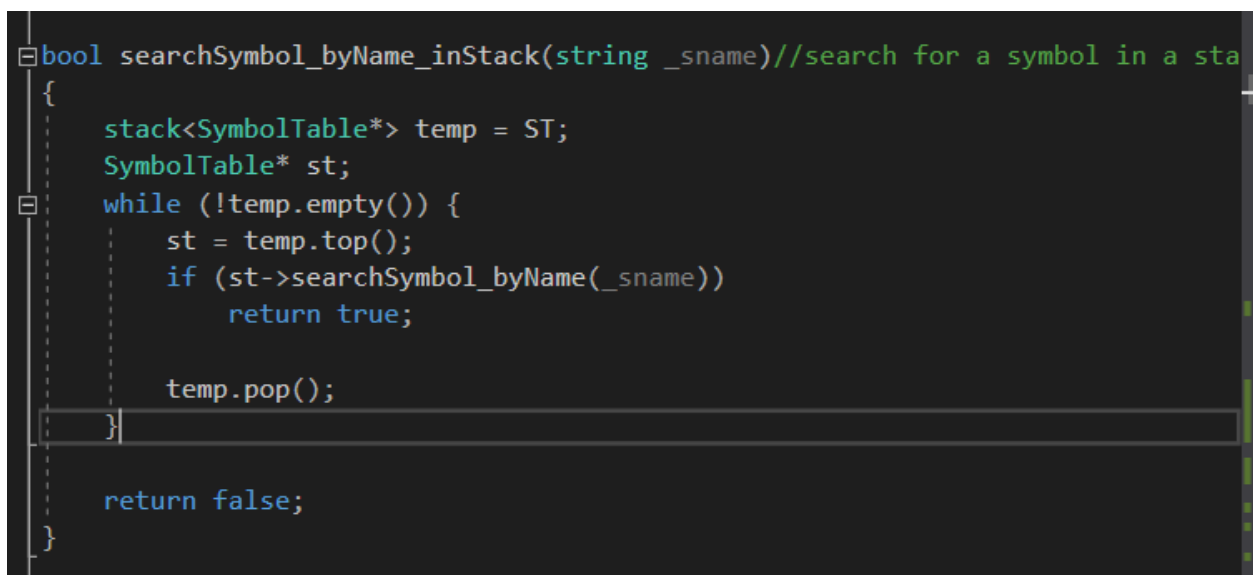
```
test.txt - Notepad
File Edit Format View Help
begin
integer x1,x2
integer z
|
proc get (integer x) = read x

begin
boolean x3
proc c (boolean z) = if z then read x1 end if

while x3 do
x2 := x2 + x1 * x2 / x2
end while
```

The program can not read the declarations in the first scope ,

While I search for the variable name in all previous blocks.



The image shows a C++ code editor with a dark background. The code defines a recursive function `searchSymbol_byName_inStack` that searches for a symbol in a stack of symbol tables.

```
bool searchSymbol_byName_inStack(string _sname)//search for a symbol in a sta
{
    stack<SymbolTable*> temp = ST;
    SymbolTable* st;
    while (!temp.empty()) {
        st = temp.top();
        if (st->searchSymbol_byName(_sname))
            return true;

        temp.pop();
    }

    return false;
}
```