

```

BEGIN
PRINT "How many fibonacci numbers do you want?"
INPUT nums
LET a = 0
LET b = 1
WHILE nums > 0 REPEAT
PRINT a
LET c = a + b
LET a = b
LET b = c
LET nums = nums - 1
ENDWHILE
END

```

Write a Translator:

Enter the path: <user inputs the path of the file containing the code in **.txt**>

Correct!!!

Translating to C++ code <output to the file with the same name but in **.cpp**>

### LANGUAGE SPECIFICATION

<program> ::= 'BEGIN' <newlines> <statements> <newlines> 'END'

<statements> ::= <print\_statement><newline><statements>|<input\_statement><newline><statements>  
|<let\_statement><newline><statements>|<if\_statement><newline><statements>|<while\_statement><new

<print\_statement> ::= 'PRINT' <string>

<string> ::= '"'<chars>''

<chars> ::= empty|<char><chars>|<num><chars>|<space><chars>

<input\_statement> ::= 'INPUT' <id>

<id> ::= <char><post\_id>

<post\_id> ::= <char><post\_id>|<digit><post\_id>|empty

<char> ::= 'a'|...|'z'|'A'|...|'Z'

<digit> ::= 0|...|9

<number> ::= '-'<num>|'+'<num>|<digit>

<num> ::= <digit><num>|<digit>

<space> ::= ' '  
 <let\_statement> ::= 'LET' <assignment>  
 <assignment> ::= <id> = <expression>  
 <expression> ::= <id>|num|<exp> '+' <exp>| <exp> '-' <exp>| <exp> '\*'  
 <exp>| <exp> '/' <exp>| <exp> 'mod' <exp>  
 <exp> ::= <id>|<number>  
 <if\_statement> ::= 'IF' <condition> <newline> <statements> <newline>  
 'ENDIF'  
 <while\_statement> ::= 'WHILE' <condition> <newline> <statements> <new-  
 line> 'ENDWHILE'  
 <condition> ::= <expression> <compare> <expression>  
 <compare> ::= '>'| '< '| '>=' '| '<=' '| '=='