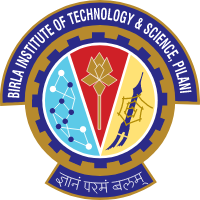
Compiler Construction

Assignment



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We have designed “**Kirilang**” language, which is similar in constructs to the python language, but also takes inspiration from the C language in a few aspects such as include statements, function/ conditional statement scope delimited by terminal symbols,(instead of tab spaced function scope as in python), and also simplified print statements as is the case with python. We will make a language translator from Kirilang to C language.

**Core syntax of Kirilang**

We won’t be using libraries or function calls currently, so it will be following the basic C syntax of

#include<stdio.h>

int main(){

statements;

}

1. *Statement delimiter*: The “|” symbol marks the end of a statement, and is used after completing every statement
2. *Comments:*

Comments are of the form

(: Hello this is a block comment :)

:D hello this is a single line comment

1. *Declaration Statements*: Declaration statements start with decl

keyword, followed by data type ( num for int, dec for float, lrg for double, and alph for character) followed by the variable name.

:D Declaration example

decl num number1|

decl alph char2|

decl num num1[2][3]|

1. *Operators*:

* The assignment operation is <- (equal to operator) for example, a<-b, a<-2 , a<-a+2
* and is equivalent to && in C
* or is equivalent to || in C
* not is equivalent to ! in C
* Block of statements are enclosed inside :- and -: for example, :- statement1|

statement2| -:

* ++ is represented by incr and - - is represented by decr

1. *Conditional Statements*:

* Check(condition):- statement1 -:

otherwise check(condition2):- statement2 -:

otherwise:- statement3 -:

1. *Loop structures*:

* for loop in this language is represented by:

start(num i<-0 | i<limit | i incr):-

statements |

-:

* While loop in this language is represented by:

until(condition):-

statements |

-:

* Do while loop in our language is represented by:

do :-

-: until(condition) |

1. *Input/ Output*

* For input, we will use a read(varname) function,
* For output we will use a print(“String”) or print(“This is value of /1 variable and /2 variable”,var1,var2)

*Example Program*:

func main():-

num a|

print(“Hello, this is the first program of Kirilang”)|

print(“enter a value”)|

read(a)|

print(“Value you entered was /1”, a)|

check(a==2):-

print(“the number you entered was 2”)|

-:

otherwise:-

print(“the number you entered was not 2”)|

-:

-:

Thank you!