**PROJECT**

**Submit date: June 7th**

**Programming language: C, C++, Java, C#, VB, …**

Input text is a formal specification function (implicit)

Output is a completing program which uses one of above-mentioned programming languages can execute.

The aim of project is to generate programming language from formal specication.

**REQUIREMENT**

1. **Basic functions (8.5 points)**
2. Generate input, output, processing and main functions. You must check pre-condition of input.
3. The basic types you must support in your program are integer, real and natural numbers, boolean and string (denoted as char\*). **Iteration does not occur in input text.**
4. Basic operators: +, -, \*, /, %, >, <, =, !=, >=, <=, !, &&, ||
5. Input text: type in the input area.
6. The program can execute and gives true results.
7. **Advanced functions (1.5 points)**
8. Menu:
   1. New: clean input area and programming language area.
   2. Open: open file and get data from file into the input area.
   3. Exit: close the program.
9. There are symbols on the taskbar such as New and Open symbols which have the same functions as on the Menu
10. Hightlight some keywords (syntax hightlighting)

**SOME RECOMMENDATION INPUTS**

1. Max2So(a:R,b:R)c:R

pre

post ((c=a)&&(a>=b))||((c=b)&&(b>a))

1. GiaiPhuongTrinhBac1(a:R,b:R)x:R

pre a != 0

post (x = -b/a)

1. Max2SoDuong (a1 :R , a2 : R) kq : R

pre ( (a1 > 0) && ( a2 >0) )

post ( (kq = a1) && (a1 >=a2))

||((kq=a2)&&(a2>a1))

1. XepLoaiHS (diem: R) xl: char\*

pre ( (diem>=0) && (diem <=10))

post

((xl="XS") && (diem>=9)) || ((xl="Gioi") && (diem>=8) && (diem<9))

|| ((xl="Kha") && (diem>=6.5) && (diem<8)) || ((xl="TB") && (diem>=5) && (diem<6.5))

|| ((xl="Yeu") && (diem>=3.5) && (diem<5)) || ((xl="Kem") && (diem<3.5))

1. LaNamNhuan ( nam : Z) kq : B

pre (nam>0)

post

(

(kq = FALSE) && (nam%4 !=0)

)

||

(

(kq = FALSE) && (nam%400 != 0)

&& (nam%100=0)

) ||

(

(kq = TRUE)

&& (nam%4 = 0)

&& (nam%100!=0)

)

||

( (kq = TRUE) && (nam%400=0))

**SOME RECOMMENDATION SCREENS**

