

# OURC\_Project 2

---

DESIGN : GAXZIPTGO

# Q&A

---



# outline

---

- About Project 2
  - Error Message
    - undefine identifier
    - Error Line
  - Statement Excute
  - Define Variable
  - Define Function
  - Execute Function
- QA

# About Project 2

---

- Error Message

- undeclared identifier

- 規則1 : 在<definition> ,

- <function\_definition\_without\_ID> ,

- <formal\_parameter\_list> ,

- <rest\_of\_declarators> ,

- <declaration>文法中的Identifier 不須確認是否定義

- 規則2 : 該文法若為Identifier開頭 則在下一個token(或換行) 需確認  
若不是開頭 直接確認

```
Our-C running ...
> int a ;
Definition of a entered ...
> b
=
Line 1 : undefined identifier : 'b'
> Line 1 : unexpected token : '='
> int f1() {
b
=
Line 2 : undefined identifier : 'b'
> Line 1 : unexpected token : '='
> int f1( int b ) {
b = 3 ;
}
Definition of f1() entered ...
```

## About Project 2

---

- Error Message(範例)
  - undeclared identifier

# About Project 2

---

- Error Message
  - Error Line
    - 規則：依每一次<definition> or <statement>為主  
每遇到一次換行 Line+1

## About Project 2

---

```
Our-C running ...
```

```
>
```

```
c= 4;
```

```
Line 4 : undefined identifier : 'c'
```

```
>
```

```
int f1(){
```

```
c
```

```
=
```

```
Line 6 : undefined identifier : 'c'
```

```
> Line 1 : unexpected token : '='
```

```
> c
```

```
=
```

```
Line 1 : undefined identifier : 'c'
```

```
> Line 1 : unexpected token : '='
```

- Error Message(範例)
- Error Line

# About Project 2

---

- Statement
- 規則：若<statement>完成，則對該input做運算  
(Pro2 只需處理定義的function)  
並印出:Statement executed ...



## About Project 2

---

```
Our-C running ...  
> 5 ;  
Statement executed ...  
> cout << 5 ;  
Statement executed ...  
> cin >> a ;  
Line 1 : undefined identifier : 'a'  
> cin >> 5 ;  
Statement executed ...
```

- Statement(範例)
  - cout, cin 目前無需實作

# About Project 2

---

- Define Variable
- 規則：若<definition>完成，則對所有文法內的identifier做定義  
並印出: Definition of (...) entered ...  
如果已經定義過  
則印出: New definition of (...) entered ...

# About Project 2

---

```
Our-C running ...  
> int a ;  
Definition of a entered ...  
> int b ; int c ;  
Definition of b entered ...  
> Definition of c entered ...  
> int b, c ;  
New definition of b entered ...  
New definition of c entered ...
```

- Define Variable (範例1)
- <definition>

```
Our-C running ...  
> { int a ; }  
Statement executed ...  
> □
```

## About Project 2

---

- Define Variable (範例2)
- <statement>

# About Project 2

---

- Define Function

- 規則：若<definition>完成，且經過<function\_definition\_without\_ID>，則對所有文法內的identifier做function的定義

並印出: Definition of (...) entered ...

如果已經定義過

則印出: New definition of (...) entered ...

<compound\_statement> 與 <formal\_parameter\_list>  
內的identifier 無須印出

# About Project 2

---

```
Our-C running ...  
> int f1() {}  
Definition of f1() entered ...  
> int f1() {  
    int a ;  
}  
New definition of f1() entered ...
```

- Define Function (範例1)

# About Project 2

---

- Execute Function
  - ListAllVariables(); // 列出所有變數 並依字串大小排列
  - ListAllFunctions(); // 列出所有函式 並依字串大小排列
  - ListVariable(char[] var) ; // 列出該變數以及型別
  - ListFunction(char[] fun) ; // 列出該函式與定義的程式

## About Project 2

```
Our-C running ...
> int a ;
Definition of a entered ...
> int f1(int b) {
int c ;
return c ;
}
Definition of f1() entered ...
> int b ;
Definition of b entered ...
> int f2() {} ;
Definition of f2() entered ...
> Statement executed ...
> ListAllVariables() ;
a
b
Statement executed ...
> ListAllFunctions() ;
f1()
f2()
Statement executed ...
```

- Execute Function (範例1)
- ListAllVariables() & ListAllFunctions()



```
> ListVariable("a");  
int a ;  
Statement executed ...  
> ListFunction("f1") ;  
int f1( int b ) {  
    int c ;  
    return c ;  
}  
Statement executed ...  
> ListFunction("f2") ;  
Line 1 : undefined ident.  
> ListFunction("f2") ;  
int f2() {  
}  
Statement executed ...
```

## About Project 2

- Execute Function (範例2)
- ListVariable & ListFunction

## About Project 2

---

```
> int f2() { int b ; if(b==0);}
New definition of f2() entered ...
> ListFunction("f2");
Line 1 : undefined identifier : 'L
> ListFunction("f2");
int f2() {
    int b ;
    if ( b == 0 )
        ;
}
Statement executed ...
```

- Execute Function (範例3)
- 印出的Function須符合“夏式文法”