

## Ch 6 Quiz

### Multiple Choice Questions (10%)

1. Which of the following is an example of a language that is based on the declarative paradigm?

- A. LISP B. PROLOG C. C D. C++

2. Which of the following is not a control statement?

- A. If-else statement B. While statement C. Assignment statement D. For statement

3. Which of the following is a means of nullifying conflicts among data types?

- A. Inheritance B. Parsing C. Coercion D. Code optimization

4. Which of the following is a means of defining similar yet different classes in an object-oriented program?

- A. Parsing B. Resolution C. Polymorphism D. Inheritance

5. Which of the following is not associated with object-oriented programming?

- A. Inheritance B. Resolution C. Encapsulation D. Polymorphism

### Fill-in-the-blank/Short-answer Questions (90%)

1. Give three examples of key words that are often found in high-level imperative or object-oriented languages. (6%)

if while int

Ans: if, while, for, class, int, ...  
C, C++, JavaScript

2. The following is a program segment and the definition of a function named sub. (6%)

```
X = 5;
sub(X);
print(X+1);
```

```
def sub(Y):
    Y = 10;
```

A. What value will be printed by the program segment if parameters are passed by value?

6 6

B. What value will be printed by the program segment if parameters are passed by reference?

11 11

3. A data structure in which all elements have the same type is called an array, whereas a structure may have elements of different types. (6%)

array

struct

4. To say that a grammar is ambiguous means that the grammar allows more than one parse tree or two a single string. (9%)

透過該文法生成的語言

有一個字串有大於等於一個的有效語法樹。

5. What clause would produce the resolvent (T OR W) when resolved with the clause (T OR Q). (6%)

句形

結果

(Q OR W OR S)

(Q OR W)

Ans: (Q OR W)

6. Explain the distinction between fruitful and void functions. (9%)

fruitful functions: 有返回值

fruitful: return 值

void functions: 沒有返回值

void: 不 return 值

7. Based on the sketch of a class definition below, which method can be invoked from outside an instance of the class?

(6%)

```
class Example
{
    private void method1()
    public void method2()
    private void method3()
    public void method4()
}
```

method 2

method 4

method 2  
method 4

8. Rewrite the following instructions using a single if-else statement. (9%)

```
if (A == 3) goto 50
goto 60
50 print(C)
goto 100
60 print(B)
100 ...
```

if A == 3  
print(C)  
else  
print(B)

```
if (A == 3) {
    print(C);
}
else {
    print(B);
}
```

9. What general rule should be added to the Prolog program below so that Prolog can conclude that ice cream is better than candy? (6%)

```
better(icecream, cookie).
better(X, Z) :- better(X, Y), better(Y, Z).
```

better(cookie, candy)

better(cookie, candy).

10. Indicate how each of the following types of programming languages is classified in terms of generation (first generation, second generation, or third generation). (9%)

third A. High-level languages

first B. Machine languages

second C. Assembly languages

third

first

second

generation

global variables

任何 functions 都能夠使用的 variables

local variables

在哪個 function 內宣告, 就只能在那個

function 內使用, 其他 functions 不能

11. Explain the distinction between global and local variables. (9%)

在 function 內的 local variables, 只有該 function 內使用

而 global variable 任何 function 都可使用

12. Explain the distinction between a formal parameter and an actual parameter. (9%)

程式的參數 → actual parameter

formal parameter: 固定的參數格式, 型別

例)

"

→ formal parameter

actual parameter: 不用參數的型別, 由變數使用的常

formal parameter:

functions / method 定義時使用的參數名稱, 表示連接型別 values 或資料型態, 僅是一個位位符。

Actual Parameter:

functions / method 實際呼叫時所使用變數(或值)和 formal parameters 相對照, 呼叫時取代原本定義的位位符。