

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%)

Ans: for, while, class

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

6
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%)

由該文法生成的語法有一個字串擁有大於一個的解析語法樹

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

模糊

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

T OR Q
消掉、換 W

(Q OR W OR S)

Ans: (Q OR W)

Ans: (Q OR W)

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

fruitful function: 有返回值

fruitful = return 值

void function: 沒有返回值

void = 不 return 值

7. Based on the sketch of a class definition below, which methods 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 gen. A. High-level languages

third

first gen. B. Machine languages

first

second gen. C. Assembly languages

second

generation

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

local variables:

在該function內宣告的 local variables 只有該function能用, 其他function不能用

global variables:

任何function都可以使用的 variables.

在function內的 local variables, 只有該function可使用

而 global variable 任何function都可以使用

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

(圖)

formal parameters:

function or method 宣告時使用的參數名稱, 其型別與值在宣告時決定, 僅在一個地方使用

actual parameter: 不用參數的型別, 由變數使用的值

下決定型別

Actual parameters: function or method 被呼叫時使用的參數值, 與 formal parameters 對應呼叫時, 將參數值傳入給被呼叫的 function.