

6.9. range:  $\min_x \sim \max_x$ ,  $\min_y \sim \max_y$ ,  $\min_z \sim \max_z$

size of subscript range:  $\text{size}_1$ ,  $\text{size}_2$ ,  $\text{size}_3$

row major:  $\text{location}(a[i, j, k]) = (\text{address of } a[\min_x, \min_y, \min_z])$

$+ (i - \min_x) \times \text{size}_3 + (j - \min_y) \times \text{size}_2 + (k - \min_z) \times \text{size}_1$

column major:  $\text{location}(a[i, j, k]) = (\text{address of } a[\min_x, \min_y, \min_z])$

$+ (i - \min_x) \times \text{size}_1 + (j - \min_y) \times \text{size}_2 + (k - \min_z) \times \text{size}_3$

11.2. the program can change anything stored in the stack, bypassing the operations provided by ADT.

`s = stack(int); p = *int;`

`p = s.top;` ← 我們只是要取得值

`*p = z;` 但卻能去直接存取到 stack 並改動他

12.6 C++: implementation inheritance. A class inherits from multiple classes actually inherits the code.

Java: interface inheritance. A class inherits from multiple classes simply inherits the methods of the interface.

12.16 All methods in object class are available in all java classes.

→ 所有 class 都能用這些 basic method.

12.19 An interface can include only method declarations and name constants. abstract class must be implemented in all subclasses

12.24 Java uses garbage collector to free the memory task, when the object finished its tasks, it will become available to garbage collector, so it do not need destructor.