

CvP Practice Class 4

Chapter 6: Review questions

1. Describe how the subscript binding and storage allocation are performed in the following categories of arrays
 - a) static,
 - b) fixed stack-dynamic,
 - c) stack dynamic,
 - d) fixed heap-dynamic, and
 - e) heap-dynamic
2. What happens when a nonexistent element of an array is referenced in Perl?
3. In the implementation of data types, what information is included into the compile-time descriptor for a multidimensional array?
4. Define the heterogeneous array and the associative array.
5. What is the problem with the union type in some languages? How does the Ada discriminated union type overcome this problem?
6. Define a strongly typed programming language.

Chapter 6: Problem set

1. Compare the design of enumeration types in C++, Ada, C#, and Java 5.0. Use readability and reliability as the primary considerations in the comparison.
2. Compare the tomb stone and lock-and-key methods of avoiding dangling pointers, from the points of view of safety and implementation cost.
3. Compare C++ pointers and Java reference variables to refer to fixed heap-dynamic variables. Use safety and convenience as the primary considerations in the comparison.
4. Describe the problem with the following C++ code snippet:

```
int *p1;
int *p2 = new int[10];
p1 = p2;
delete[]p2;
```
5. Write a program in (a language of your choice) that behaves differently if the language used name equivalence than if it used structural equivalence.