Question

I do not understand the statement of **separate namespaces in slide 57.**Can you please provide more explanation on this ?

Answer

From Slide 57:

* Scopes for packages, types, methods, variables and labelled statements do not interact and can freely overlap.
* This is often expressed by saying that there are separate namespaces for these five kinds of entities.

A namespace is a mapping from names to objects.  When we say packages, classes, methods, variables, etc have separate namespaces, it means the compiler tries to map a name to different objects depending on the context.  For example, in a statement

x = f();

The semantic analyser in a compiler will try to search the name x from the variable/parameter/field declarations in the current scope which includes local variable declaration, parameter declaration and field declaration in a class.  In other words, map x to a variable object in the current scope.  The semantic analyser will try to search the name f from the method/function declarations in the current scope, i.e. map f to a method/function object in the current scope.  So the scope for variable names and function names overlap but are completely separate (do not interact).

So theoretically, there is nothing wrong in a statement “x = x(0);” the x on the left will be mapped to a variable and the one on the right to a function.