Week 6 Discussion:

*One important difference between languages that provide syntax to encapsulate the definition of user defined data types is whether the syntax requires the specification details to be separated from the implementation details. Ada requires such a separation. In Ada, the specification information must be placed in the package specification and the implementation details in the package body. Where must the representation details be placed?*

*Compare Ada with both C++ and Java in this regard. Take and defend a position as to whether requiring separation of the specification and representation information for a data type is a good language design decision.*

**Answer:**

As others have said: The details of the representation are in the package body.

Ada requires file separation of the specifications. (I have to agree with most of my classmates this seems redundant. It may be because we are learning in java and we have some bias, but one can always argue duplication of code is generally unnecessary)

C++ can have the specifications in a separate file or you can place both the header and body of a member function in a class definition. This gives more flexibility but it can also be confusing. Conceivably one could have some specification in a separate file AND in the header and body. This would really confuse anyone looking onto the code.

For Java there is no separation. The details must be in the same file that they are used. One might try to argue that it “could” be separated by having classes in other files with some of the details being separate from the main method, but that’s rather missing the point. The specification information is still in the same file that its used, its just your passing in variables, doing stuff, then passing others out.