

Lab9

1.

A. ArrayList extends AbstractList and implements List, RandomAccess, Cloneable, Serializable, Collection, and Iterable.

E.

i. When the type D is a class:

Java does not support multiple inheritance with classes to avoid the Diamond Problem. So, Java does not allow:

class D extends B, C : Compilation error

Instead, Java uses single inheritance for classes, and we must resolve the conflict manually.

⇒ D inherits the version of method() from the class it extends, either B or C, but not both because Java doesn't allow class D extends B, C.

ii. When type D is an interface:

When D is an interface that extends both B and C, and both B and C provide a default implementation of method(), Java does NOT allow D to inherit them both without resolving the conflict. It forces us to resolve the conflict inside interface D by overriding the method.

interface D extends B, C {

 @Override

 default void method() {

 B.super.method(); // or C.super.method()

 }

}

⇒ Java supports multiple inheritance of interfaces (including default methods). But if B and C define the same default method, and D extends B, C, it must override the method to resolve the conflict explicitly.