**AP Ch 11 - Abstract class**

An abstract class is a class that contains at least one abstract method. It is never instantiated but is a super class in a class hierarchy. A concrete class, non-abstract class, can be instantiated and can extend abstract classes. When it extends a class, it contains the implementation of any abstract methods that are inherited in addition to methods that are not inherited.

In this assignment, you will create the abstract class ConsonantBlends and concrete class class BlendMaker.

ConsonantBlends contains an array of consonant blends in alphabetical order. ConsonantBlends also has abstract method, getNextBlend. The array is initialized using an initializer list and consists of the following consonant blends:

"bl", "br", "ch", "cl", "cr", "dr", "fl", "fr", "gl", "gr","pl","pr", "sc",

"sh", "sk", "sl", "sm", "sn", "sp", "st", "sw", "th", "tr", "tw", "wh", "wr”

The BlendMaker class extends ConsonantBlends and creates a String instance variable, myBlend, to values passed in to the constructor. For example, a call new BlendMaker(‘b’,’l’) could be used to create consonant blends, “bl”. The getNextBlend method traverses the array and modifies its instance variable myBlend to the next element. After the call to new BlendMaker(‘b’,’l’), a call to getNextBlend sets myBlend to “br”.

The getNextBlend method returns null if myBlend is the last element of the array or if myBlend is not found in the array. After a call to new BlendMaker(‘w’,’r’), a call to getNextBlend would modify myBlend to null.After a call to new BlendMaker(‘z’,’q’), a call to getNextBlend would modify myBlend to null.

The following examples illustrate the behavior of the BlendChecker class.

**Code Segment Output Produced**

ConsonantBlends a = new BlendMaker(‘b’,’l’);

System.out.println (a); bl

a.getNextBlend();

System.out.println (a); br

a.getNextBlend();

System.out.println (a); ch

ConsonantBlands e = new BlendMaker (‘s’,’c’);

System.out.println(e); sc

e.getNextBlend();

e.getNextBlend();

e.getNextBlend();

System.out.println(e); sl

ConsonantBlends i = new BlendMaker(‘w’,’r’);

System.out.println (i); wr

i.getNextBlend();

System.out.println(i); null

ConsonantBlends u = new BlendMaker(‘q’,’u’);

System.out.println (u); qu

u.getNextBlend();

System.out.println(u); null