2004 AP® COMPUTER SCIENCE A FREE-RESPONSE QUESTIONS

1. The following class WordList is designed to store and manipulate a list of words. The incomplete class declaration is shown below. You will be asked to implement two methods.

(a) Write the WordList method numWordsOfLength. Method numWordsOfLength returns the number of words in the WordList that are exactly len letters long. For example, assume that the instance variable myList of the WordList animals contains the following.

```
["cat", "mouse", "frog", "dog", "dog"]
```

The table below shows several sample calls to numWordsOfLength.

<u>Call</u>	Result returned by call
animals.numWordsOfLength(4)	1
animals.numWordsOfLength(3)	3
animals.numWordsOfLength(2)	0

Complete method numWordsOfLength below.

```
// postcondition: returns the number of words in this WordList that
// are exactly len letters long
public int numWordsOfLength(int len)
```

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(b) Write the WordList method removeWordsOfLength. Method removeWordsOfLength removes all words from the WordList that are exactly len letters long, leaving the order of the remaining words unchanged. For example, assume that the instance variable myList of the WordList animals contains the following.

```
["cat", "mouse", "frog", "dog", "dog"]
```

The table below shows a sequence of calls to the removeWordsOfLength method.

```
// postcondition: all words that are exactly len letters long
// have been removed from this WordList, with the
order of the remaining words unchanged
public void removeWordsOfLength(int len)
```