In-Class assignment # 9

Write a program that does the following:

- Defines a class named bucket that can hold an array of characters
- The bucket class should have methods that:
  - allow placing data into the bucket
  - will reverse the order of the characters held in the bucket
  - will return the number of upper case characters that are in the bucket
  - will return the contents of the bucket
  - will return the number of characters in the bucket
  - will display the contents of the bucket
- Will have a main class that
  - Prompts for a file name and reads a file name from the console:
  - Reads characters from a file & places them into a bucket object
  - Causes the string held in the bucket to be displayed in forward order
  - Causes the string held in the bucket to be displayed in reverse order
  - Demonstrates the other methods.

Copy the source file to D2L.

For testing, I have placed a file named data10.txt on the class web page. Or you can create your own.

Notes

To read the file name via keyboard input you could read an array of bytes using System.in.read as shown in the example on pages 335-336. This array of bytes will need to become a string for use in opening the file. Create an object of type String like this:

```
String myfilename = new String(data);
```

where the variable named data was used in the System.in.read(data); statement.

Another way is to use readLine(), which is a member of the BufferedReader class, like this:

```
BufferedReader buf = new BufferedReader(new InputStreamReader(System.in));
String myFilename;
myFilename = buf. readLine();              // read from keyboard done here
```

myFilename is a string variable that will contain the filename typed in at the keyboard and can then be directly used in the new FileInputStream(myFilename) statement.