1. (8 pts) Fill in the blanks in the following Java code, which should select a particular day’s reservations from a List of Reservation objects. Assume that java.util.* has been imported. The ListIterator API is below for reference.

public List filterDate (List reservations, Date date)
{
    List filtered = new ArrayList ();
    ListIterator iter = reservations.listIterator ();
    while (_ iter.hasNext () _____)
    {
        Reservation reserve = (_ Reservation _____) iter.next();
        if (reserve.getDate ().equals (date))
        {
            filtered.add (reserve);
        }
    }
    return __ filtered ____________________;
}

public interface ListIterator extends Iterator {
    boolean hasNext();
    Object next();
    boolean hasPrevious();
    Object previous();
    int nextIndex();
    int previousIndex();
    void remove(); // Optional
    void set (Object o); // Optional
    void add (Object o); // Optional
}
2. (8 pts) Fill in the blanks in the following piece of Java code, designed to count the words in a text file. The BufferedReader and StringTokenizer APIs are below for reference.

```java
public static int countWords (String filename)
    throws IOException
{
    int wordCount = 0;
    BufferedReader in = null;
    in = new BufferedReader (new FileReader (filename));

    String line;
    while ((line = in.readLine()) != null)
    {
        StringTokenizer tokens = new StringTokenizer (line);
        while (tokens.hasMoreTokens())
        {
            tokens.nextToken();
            wordCount++;
        }
    }
    return wordCount;
}
```

```java
public class BufferedReader
{
    BufferedReader(Reader in)
    BufferedReader(Reader in, int sz)
    void close()
    void mark(int readAheadLimit)
    boolean markSupported()
    int read()
    int read(char[] cbuf, int off, int len)
    String readLine()
    boolean ready()
    void reset()
    long skip(long n)
}
```

```java
public class StringTokenizer
{
    StringTokenizer(String str)
    StringTokenizer(String str, String delim)
    StringTokenizer(String str, String delim, boolean returnDelims)
    int countTokens()
    boolean hasMoreElements()
    boolean hasMoreTokens()
    Object nextElement()
    String nextToken()
    String nextToken(String delim)
}
```
3. (4 pts)
a. Describe the responsibilities of each of the classes below. (That is, what do these classes do and what are they used for?)
   - Date
     Represents a point in time.
   - DateFormat
     Parses Strings to turn them into Date objects. Formats Date objects as Strings.
   - Calendar
     Represents a Calendar system. Used for date arithmetic.

b. Why are all three classes needed? Why couldn’t their responsibilities be folded into one class?

The DateFormat class is needed because different countries display time differently and because different applications need to display time in different formats. Separating from Date allows many different formats to be used.

The Calendar class is needed because arithmetic with dates is dependent on ideas like “months”, “weeks”, etc., which are a function of the calendar. Different cultures have different calendars.