```java
import components.map.Map;
import components.map.Map1L;

/**
 *
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 */
public final class ToDoList {

    private String event;

    private Map<String, Integer> allEventsImp;
    private Map<String, Integer> allEventsDate;

    /**
     * No argument constructor--private to prevent instantiation.
     */
    public ToDoList() {
        this.event = "";
        this.allEventsImp = new Map1L<String, Integer>();
        this.allEventsDate = new Map1L<String, Integer>();
    }

    //requires event to not be an already existing not completed event in the to-do-list
    public void addEvent(String event) {
        if (this.allEventsImp.hasKey(event)
                && this.allEventsImp.value(event) == -1) {
            this.allEventsImp.replaceValue(event, 0);
            this.allEventsDate.replaceValue(event, 0);
        } else {
            this.allEventsImp.add(event, 0);
            this.allEventsDate.add(event, 0);
        }
    }

    //requires that importance is a number between 0-3 and date is a valid date in the format yearmonthday
    //requires event to not be an already existing not completed event in the to-do-list
    public void addEvent(String event, int importance, int date) {
        if (this.allEventsImp.hasKey(event)
                && this.allEventsImp.value(event) == -1) {
            this.allEventsImp.replaceValue(event, importance);
            this.allEventsDate.replaceValue(event, date);
```

```
43          } else {
44              this.allEventsImp.add(event, importance);
45              this.allEventsDate.add(event, date);
46          }
47      }
48
49      //requires that event is valid for all the next 4 methods
50      public int getImportance(String event) {
51          return this.allEventsImp.value(event);
52      }
53
54      public int getDate(String event) {
55          return this.allEventsDate.value(event);
56      }
57
58      //requires that imp is between 0-3
59      public void addImportance(String event, int imp) {
60          this.allEventsImp.replaceValue(event, imp);
61      }
62
63      //requires that date is a valid date in the format YearMonthDay
64      public void addDate(String event, int date) {
65          this.allEventsDate.replaceValue(event, date);
66      }
67
68      //requires date is a valid date in the format YearMonthDay
69      //requires that event already exists in the to-do list
70      public void removeEvent(String event, int dateRem) {
71          this.allEventsImp.replaceValue(event, -1);
72          this.allEventsDate.replaceValue(event, dateRem);
73      }
74
75      //requires i to be a valid importance level (-1, 3)
76      public String getStringImportance(int i) {
77          String imp = "";
78          if (i == 0) {
79              imp = "No Importance";
80          } else if (i == 1) {
81              imp = "Low Importance";
82          } else if (i == 2) {
83              imp = "Medium Importance";
84          } else if (i == 3) {
85              imp = "High Importance";
86          } else {
87              imp = "Completed";
```

```
 88         }
 89         return imp;
 90     }
 91 
 92     public String getStringDate(int i) {
 93         String date = "";
 94         if (i == 0) {
 95             date = "No Date";
 96         } else {
 97             int dateInt = i;
 98             int year = dateInt / 10000;
 99             dateInt = dateInt % 10000;
100             int month = dateInt / 100;
101             dateInt = dateInt % 100;
102             int day = dateInt;
103             date = month + "/" + day + "/" + year;
104         }
105         return date;
106     }
107 
108     //
109     @Override
110     public String toString() {
111         String ans = "To-Do-List \nEvent, Importance or Completed,
    Date Completed or Date to be Completed\n";
112         String imp = "";
113         String date = "";
114         for (Map.Pair<String, Integer> i : this.allEventsImp) {
115             imp = this.getStringImportance(i.value());
116             date =
    this.getStringDate(this.allEventsDate.value(i.key()));
117             ans = ans + i.key() + ", " + imp + ", " + date + "\n";
118         }
119         return ans;
120     }
121 
122 
123 
124     /**
125      * Main method.
126      *
127      * @param args
128      *             the command line arguments; unused here
129      */
130     public static void main(String[] args) {
```

```
131         ToDoList check = new ToDoList();
132         //Adds first event without any importance level or date to
    be completed by
133         check.addEvent("Clean");
134         //Adds second event with importance level and date to be
    completed by
135         check.addEvent("Attend Meeting", 3, 240423);
136         //Adds third event with date, no importance level
137         check.addEvent("Have fun", 0, 240530);
138         //completes Clean event and adds date when it was completed
139         check.removeEvent("Clean", 240418);
140 
141         System.out.println(check.toString());
142 
143     }
144 
145 }
146 
```