Implementation in Java of classes specified in UML

In this exercise, you will use some UML class designs to implement a very basic To-do list system. You will be provided with a class called **TestToDoList.java** which contains a main method. When this class is run, it generates the following output:

```
Problems @ Javadoc Declaration Console Second OOADP exercise (HIGH priority, NOT_STARTED)

16 FEBRUARY 2009 13:0 Second OOADP exercise (HIGH priority, NOT_STARTED)

16 FEBRUARY 2009 13:0 Third OOADP exercise (HIGH priority, STARTED)

16 FEBRUARY 2009 13:0 Second OOADP exercise (HIGH priority, STARTED)

16 FEBRUARY 2009 13:0 Second OOADP exercise (MEDIUM priority, STARTED)

16 FEBRUARY 2009 13:1 Second OOADP exercise (HIGH priority, STARTED)

16 FEBRUARY 2009 13:1 Second OOADP exercise (HIGH priority, STARTED)

16 FEBRUARY 2009 14:0 Second OOADP exercise (HIGH priority, STARTED)

16 MARCH 2009 13:0 Second OOADP exercise (HIGH priority, STARTED)

16 FEBRUARY 2010 13:0 Second OOADP exercise (HIGH priority, STARTED)
```

You are also provided with the following UML class designs for two enumeration types, **Completion** and **Priority**, and a class called **ToDoItem**.



```
ToDoltem
-deadlineDate: Date
-deadlineTime: Time
-description: String
-priority: Priority
-completion: Completion
«create» +ToDoltem()
«create» +ToDoltem(deadlineDate: Date, deadlineTime: Time, description: String, priority: Priority, completion: Completion)
+getDeadlineDate(): Date
+setDeadlineDate(newDate: Date)
+getDeadlineTime(): Time
+setDeadlineTime(newTime: Time)
+getDescription(): String
+setDescription(newDescription: String)
+getPriority(): Priority
+setPriority(newPriority: Priority)
+getCompletion(): Completion
+setCompletion(newCompletion: Completion)
+equals(obj: Object): boolean
+compareTo(toDo: ToDoItem): int
+toString(): String
```

The source code for the classes Date, Month and Time are provided on Moodle.

Your task is to implement the **Completion**, **Priority** and **ToDoItem** classes in Java and then run **TestToDoList.java** to obtain the output given above.

You should start by creating a new package called **dk.aau.create.ooadp.todo** in a new project in Eclipse. You should then create the classes **Date**, **Month**, **Time** and **TestToDoList** in this package using the code provided on Moodle. You then have to create the **Completion**, **Priority** and **ToDoItem** classes in the same package using the UML class designs and the sample output provided above.