Project9
CECS277 Fall 2021
Due November 11th 11:59 pm
Submit project9.zip folder before the deadline

Please make sure to follow the naming convention for your project. If your project does not run because of the naming issues, you won't receive any credit.
project9.zip should include **project9 Package** and **project9.jar**
project9 package will include**:**

ToDoList.java
Task.java
ToDoListTester.java ➔ includes the main method
project9.jar

Plagiarism/Academic Integrity Policy

Cheating and plagiarism will not be tolerated in this course. Students are to do their own assignments. Cases of copying, cheating, and plagiarism of assignments and/or tests, and any other violations, will be pursued to the maximum extent permitted by the University, which can include expulsion from the University. This applies equally to students who intentionally assist other students in academic dishonesty.

Any form of plagiarism or cheating will result in a failing grade on the assignment (at a minimum), and could result in a failing grade in the course or even university disciplinary action.

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Academic Information and Regulations-Cheating and Plagiarism

Problem Description:

Implement a to do list. Tasks have a **priority** between 1 and 9, and a **description**. When the user enters the command **`add`** ***priority description***, the program adds a new task. When the user enters **`next`**, the program removes and prints the most urgent task. The **`quit`** command quits the program.
Use a priority queue in your solution.

Sample Output:

```
To Do List - Please enter an option
  add priority description (add a new task)
  next (remove and print most urgent task)
  quit (exit this program)

> add 3 description of new task
> add 4 even newer task
> add 2 least important task
> next
least important task
> next
description of new task
> next
even newer task
> quit
Press any key to continue . . .
```

Here is a tester for assignment. It is not complete. You will need to make tests for the equals and hashcode methods to prove that they work.

```
public class ToDoListTester
{
   public static void main(String[] args)
   {
      ToDoList list = new ToDoList();
      System.out.println("Adding the following 6 items to the list.");
      System.out.println("\"add 1 Complete Programming Exercise 15.11\"");
      System.out.println("\"add 8 Read for tomorrow's class\"");
      System.out.println("\"add 3 Soccer practice\"");
      System.out.println("\"add 6 Call parents\"");
      System.out.println("\"add 5 Have dinner with friends\"");
      System.out.println("\"add 9 Sleep well\"");
      list.addTask("add 1 Complete Programming Exercise 15.11");
      list.addTask("add 8 Read for tomorrow's class");
      list.addTask("add 3 Soccer practice");
      list.addTask("add 6 Call parents");
      list.addTask("add 5 Have dinner with friends");
      list.addTask("add 9 Sleep well");
      System.out.println();
      System.out.println("Entering 'add bad command'");
      list.addTask("add bad command");
      System.out.println("Expected: The priority must be an integer between 1 and 9.");
      System.out.println();
      System.out.println("Pulling most urgent items out.");
      list.nextTask();
      System.out.println("Expected: Complete Programming Exercise 15.11");
      list.nextTask();
      System.out.println("Expected: Soccer practice");
      list.nextTask();
      System.out.println("Expected: Have dinner with friends");
      list.nextTask();
      System.out.println("Expected: Call parents");
      list.nextTask();
      System.out.println("Expected: Read for tomorrow's class");
      list.nextTask();
      System.out.println("Expected: Sleep well");
      list.nextTask();
      System.out.println("Expected: There are no tasks in the list.");
   }
}
```