

Design a Task Executor for a Car Workshop.

The Car workshop has following Employees on the payroll:

Employee Name	Designation
Joe	Trainee
Smith	Expert
Walker	Employee

Following tasks/duties are performed in the workshop:

Task Name	Service Fee(\$)	Time Taken(Hours)
Car-Wash	100	2
Car-Repair	1000	5
Car-Paint	1100	4

On a given day, a schedule is created in the morning, in which task/tasks are assigned to each Employee as mentioned below:

Employee Name	Task Name
Joe	Car-Wash
	Car-Repair
	Car-Paint
Smith	Car-Repair
Walker	Car-Paint
	Car-Repair

Assignment:

1. Design and implement Task, Employee and Schedule classes.
2. Design and Implement Executor which will schedule and execute tasks of all employees.
3. All Employees will start their work in Parallel (multi-threaded).
4. There can be 2 strategies of Task Prioritization –
 - Tasks can be prioritized based on the time taken. More time consuming task should be executed prior to other lesser time-consuming tasks assigned to that employee.

Expected output

Employee Name	Task Name	Time taken	Fee
Joe	Car-Repair	5	1000
	Car-Paint	4	1100
	Car-Wash	2	100
Smith	Car-Repair	5	1000
Walker	Car- Repair	5	1000
	Car- Paint	4	1100

- Tasks can be prioritized based on Service Fee. A Task which charges more service fee should be executed first.

Expected output

Employee Name	Task Name	Time taken	Fee
Joe	Car-Paint	4	1100
	Car-Repair	5	1000
	Car-Wash	2	100
Smith	Car-Repair	5	1000
Walker	Car-Paint	4	1100
	Car-Repair	5	1000

Expectations:

1. Programming using Interfaces is desired.
2. Use composition wherever required.
3. The design should be flexible to accommodate more task prioritization strategies in future.
4. Classes should be properly packaged.
5. Class names, method and variable names should follow proper Java naming conventions.
6. Correct access modifiers should be used.
7. Use Java Generics wherever applicable.
8. Usage of Java 5 or later features desirable.