



Java SE 8 Programming Language

Training Assignments


Document Code	25e-BM/HR/HDCV/FSOFT
Version	1.1
Effective Date	20/11/2012

RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	01/Oct/2018	Create a new Assignment	Create new	DieuNT1	VinhNV
2	19/Jun/2019	Update template	Fsoft template	DieuNT1	VinhNV

Contents

Medium Assignment 1 – Option 1: Concurrency and Java IO.....	4
Objectives:.....	4
Working requirements:.....	4
Technologies:	4
Assignment Specifications:	4
Storage Data:	5
Guidelines:.....	5

	<table><tr><td>CODE:</td><td>JPL.M.A101</td></tr><tr><td>TYPE:</td><td>Medium</td></tr><tr><td>LOC:</td><td></td></tr><tr><td>DURATION:</td><td>120 MINUTES</td></tr></table>	CODE:	JPL.M.A101	TYPE:	Medium	LOC:		DURATION:	120 MINUTES
CODE:	JPL.M.A101								
TYPE:	Medium								
LOC:									
DURATION:	120 MINUTES								

Medium Assignment 1 – Option 1: Concurrency and Java IO

Objectives:

- » Understand basic concepts of the thread.
- » Know how to create a new thread, handling thread priorities.
- » Practice with the Life Cycle of a Thread.
- » Can enforcing thread synchronization.
- » Working with the multi-thread.

Working requirements:

- » JDK 8
- » Eclipse

Technologies:

The product implements one or more technologies:

- » Object Oriented Programming
- » Threading, IO.
- » Utility class: ArrayList, List, HashMap.

Assignment Specifications:

Create a Java console program to manage the candidates.

The trainee create classes **ExperienceCandidate** and **FresherCandidate**:

- » Each candidate has flowing attributes: first name, last name, birth date, address, phone, email.
- » **ExperienceCandidate** has more attributes: years' experience, professional skill.
- » **FresherCandidate** has more attributes: graduation date, graduation rank, education.
- » Getter, setter, default constructor and constructor with all attributes.

Create 3 concurrent threads:

- a. The first Thread to write a list of candidates into a text file.
- b. The second thread to read all of the candidates from the file.
- c. The third thread to display candidates by table format.

Note: every thread will lock the file when read or write.

Storage Data:

- a. The user inputs data from the keyboard.
- b. Data is stored in a text file.
- c. Output data is displayed on the console.

Guidelines:

- Create a project named **JPL.M.A101**, create package ***fa.training.entities*** that contains classes/interfaces: Candidate, ExperienceCandidate, FresherCandidate.
- Create other package ***fa.training.services*** that contains a sharing data class to implement Functional Requirements.
- Create a package named ***fa.training.main*** contains **CandidateManagement** class and the main() method to test the above threads.

-- THE END --