**Date:** 24-7-2018.

**Trainer:** Venu Kandagatla.

**Session Summary:**

   1. we had an interactive session with Sumanth Pole where he spoke about  project experience

       in Scilab cloud followed by quick Q&A session on it.

   2. Discussed Object Oriented Principles

* Inheritance
* Polymorphism

   3. Discussed  Solid Principles

* Single Responsibility Principle
* Open and Closed Principle
* Liskov Substitution Principle
* Interface Segregation Principle
* Dependency Inversion

**Todays Task:**

   1. Create  AutoParking maven project with these features and upload to it git.epam.com

* At first, we have to verify the login credentials of admin.
* Ask the admin, to enter the number of slots for parking.
* Ask admin to choose between parking and unparking.
* If parking is selected, then make him enter the vehicle number, only after proper validating allocate the slot to that vehicle.
* if unparking is selected, then enter the vehicle number and after validation  unallocate the slot of that vehicle.
* Continue the process until admin wants to exit.

**Date:** 26-7-2018.

**Trainer:** Venu Kandagatla.

**Session Summary:**

1. In today’s Tech Talk, we had Sowmya Surampalli talk about IoT followed by Q&A.
2. Code review by Venu. Had a discussion on key points in improving the readability and maintainability of projects.

   3. Topics Discussed:

* Law of demeter
* Design by contract
* KISS – keep it simple
* DRY – don’t repeat yourself
* YAGNI – You Aren’t Gonna Need It
* Packaging Principles

**Todays Task:**

1. Submit a document or ppt for Solid Principles
2. Submit a document or ppt for hashCode() and equals() Java API
3. Create a application for converting meters to inches, inches to feet, feet to inches and vice versa
4. Create a sample Immutable class (Earth)
5. Optimize the AutoParking Application by designing a data structure which minimizes both time and space complexity

**Date :** 27-07-2018

**Trainer :** Durga Adimulam, Naresh Chinthakindi, Santosh Chavva

**Session Summary :**

1. Presentation by  Durga Adimulam and Santosh Chavva on :

* Design Pattern
* Why do we need a Design Pattern?
* What is Design Pattern?
* What are the Benefits of Design Pattern?
* Types of Design Pattern :

1. **Creational** - Singleton
2. **Structural** – Proxy
3. **Behavioral** – Template
4. Realtime project Factory pattern example.
5. Group discussion on Client Server Architecture.
6. Question and answer session by Durga Adimulam and Naresh Chinthakindi. Topics covered :

* Clustering
* Load Balancing
* Session

**Task for Today :**

* Write Code for any 2 Patterns for each type of Design Pattern.
* Create a PPT for the same.

**Date :** 30-07-2018

**Session Summary :**

1. Code Review – length Conversion
2. Factory Design Pattern Implementation.
3. Java IO  :   <https://docs.oracle.com/javase/tutorial/essential/io/index.html>
4. Types of IO Stream (byte,character)
5. InputStream, FileInputStream
6. FileReader, FileWriter
7. InputStreamReader – Convert Bytes to Characters based on wrapper
8. DataInputStream – reading all primitive datatypes
9. ObjectInputStream, ObjectOutputStream
10. File
11. FilePermission
12. FileInputStream, FileOutputStream, FileReader, FileWriter
13. Exceptions:  EOFException, FileNotFoundExcxeption, IOException

**Task for Today :**

* Write the length conversion program using factory design pattern with Junit test cases.
* Auto Parking Application:
  + Store all the parked vehicle details in to a file (transaction) and read this file and populate the parked vehicles details whenever you re-run the application.
  + Maintain a log file to store all park and unpark vehicle details. (car number, in time and out time)

**Date :** 31-07-2018

**Trainer :**Revathi

**Session Summary :**

1. Scrum
2. Agile

            -Roles

            -WorkFlow

            -Artifacts

        3.Scrum FarmeWork

        4.Some terminology in scrum

**Date :** 30-07-2018

**Trainer :** Naresh Chinthakindi

**Session Summary :**

1. Discussed on Java Memory Management

* Method Area
* Heap
* Java stacks, Native method stacks
* PC Registers

1. Class Loading Sub-system
2. Garbage Collections and its types

* Serial
* Concurrent
* Parallel

**Tasks for Today:**

1. Create a class path program- One class in the eclipse IDE and other outside the IDE having same name and same package name, and try to run.
2. Program using String intern, and try different ways for initializing a string.
3. Try to run a program by tuning heap variables.

**Date :** 3-08-2018

**Trainer :** Venu Kandagatla

**Session Summary :**

1. Talk on Agile by Sai Teja Suggala
2. Agile manifesto in <http://agilemanifesto.org/>
3. Agile principles
4. Talk by Daljit Singh on Scrum
5. Scrum explanation
6. Code review on Auto Parking application

**Tasks for weekend:**

* Complete the car parking application with 100% coverage
* Complete previous tasks on memory management
* Prepare a Ppt/Doc on the topics Covered

**Date :** 06-08-2018

**Session Summary :**

1. Junit Introduction
2. TDD overview

Reference : contentForStudents/ Clean-TDD-Cheat-Sheet-V1.2.pdf

1. Mockito

**Task for Today :**

* 1. Submit Bug Report task to [Revathi\_Anumola@epam.com](mailto:Revathi_Anumola@epam.com)
  2. TODO task list for Password verification.
  3. Auto-parking

1. Take username, password and integer constant(1 or 0) as input from command line arguments.
2. Unit tests for validating registration number.
   1. Password validation service implementation in TDD.

**Date:** 07-08-2018

**Session Summary :**

1. Talk by Hari Prasad on Java collections.
2. Architectural Patterns(i.Monopoly, ii.Layered, iii.MVC)
3. API's(SOAP,REST)
4. Servlet introduction.

**Tasks:**

1. Brush up Collections.
2. Update/complete Password validation task.
3. Read and understand servlets from 17th chapter in Java Enterprise Edition 7.pdf
4. Create a simple servlet to display "Hello World".

**Class Summary: 14/08/2018**

* Talk by Santhosh and Rithika on database
* About databases and normal forms
* Database Management System(DBMS) :   DDL,DML,DCL
* Transactions : ACID Principles
* Object Relational Mapping (ORM) and Java Persistence API (JPA)
* SQL : process, commands, relational concepts, datatypes ,syntax and syntax.

**Today Tasks:**

1. Dynamically display and search  parking vehicles without page refresh
2. Design database schema for Auto parking application and send report
3. Learn real life examples for normal forms

Use **MySQL** and **JDBC** to implement Auto Parking application.

Below is the summary of 20/08 class

**Topics discussed**

1. Object (Connection) Pooling.
2. Multi-Threading (Thread lifecycle, Thread Stack)
3. Thread Pools
4. Executors
5. Blocking Queues

**Tasks To be performed:**

1. Create a connection pool using Linked List. (Should contain getConnection() and releaseConnection() methods , Use synchronized blocks)
2. Create a connection pool using array and status array.
3. Create a connection pool by Setting core, max and min connections.
4. HttpListener Example
5. Create 2 two threads with the following output. A

(Thread 1 prints odd numbers)

(Thread 2 prints even numbers)

Final output should be the natural numbers in order.

Achieve the above output using Synchronized.

1. Achieve the above output using Re-entrant locks.
2. Create a HttpServlet with doGet method . create a counter variable and check how its modified with multi threading.
3. What is Thread Dump and visualize it with Visual VM present in jdk/bin folder
4. How to identify memory leak in an application (Optional task)

**Topics discussed:**

1. Why JPA and features of JPA
2. How to create queries in JPQL
3. Named queries – how to create and use named queries
4. Criteria api – used to construct queries dynamically
5. Metamodel – to map fields with static class without using getter methods
6. Concurrency and locking for concurrent entity access

**Tasks to be done:**

1. Create ppt for JPA.
2. Complete JPA layer for autoparking application
3. Change db to some other db and check execution and share it with respective mentors.
4. Study chapters 37-44
5. Use SQL files to store SQL queries