**JAVA WEEK 3 SUMMARY**

**Week 1 SDLC Overview and Introduction**

**What is SDLC? –** Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality software. The SDLC aims to produce a high-quality software that meets or exceeds customer expectations, reaches completion within times and cost estimates.

**How does the SDLC work? -** The Software Development Life Cycle (SDLC) is a structured framework used in software engineering to guide the process of developing an information system or software product. The SDLC encompasses a series of phases, each with specific activities and deliverables.

**The seven phases of SDLC –** The seven phases of SDLC are:

* Requirements analysis/planning
* Defining/Feasibility
* Design and Prototyping
* Coding/Software development
* Testing
* Deployment
* Operations and maintenance

**Day 2 – Popular SDLC Models**

**V-Model -** The V-model is an SDLC model where execution of processes happens in a sequential manner in a V-shape. It is also known as Verification and Validation model. The V-Model is an extension of the waterfall model and is based on the association of a testing phase for each corresponding development stage. This means that for every single phase in the development cycle, there is a directly associated testing phase. This is a highly-disciplined model and the next phase starts only after completion of the previous phase.

**Spiral Model -** The spiral model is a risk-driven process model. This SDLC model helps the team to adopt elements of one or more process models like a waterfall, incremental, waterfall, etc. This model adopts the best features of the prototyping model and the waterfall model. The spiral methodology is a combination of rapid prototyping and concurrency in design and development activities.

**Day 3 – Popular SDLC Models Continued**

**Agile Model -** Agile methodology is a practice which promotes continued interaction of development and testing during the SDLC process of any project. In the Agile method, the entire project is divided into small incremental builds. All these builds are provided in iterations, and each iteration lasts from one to three weeks. The Manifesto for Agile Software Development was drafted and signed by a group of software developers in 2001.

**Day 4 – What is Software Prototyping in SDLC?**

**Software Prototyping –** A prototype is a working model of software with some limited functionality. The prototype does not always hold the exact logic used in the actual software application and is an extra effort to be considered under effort estimation. Prototyping is used to allow the users evaluate developer proposals and try them out before implementation. It also helps understand the requirements which are user specific and may not have been considered by the developer during product design.