## 1.IS-A and HAS-A relationship:

- 1. **Is-A relationship:** Whenever one class inherits another class, it is called an IS-A relationship.
- 2. **Has-A relationship:** Whenever an instance of one class is used in another class, it is called HAS-A relationship.

# 2.what is devops, dataops, malops tools?

DevOps, DataOps, and MLOps are all methodologies or practices that aim to streamline and improve various aspects of software development, data management, and machine learning operations. They are each associated with a set of tools and practices that help organizations achieve their goals more efficiently

#### 3.what is v model?

The V-Model, also known as the Validation and Verification Model or the Verification and Validation Model, is a software development and testing framework that emphasizes a structured approach to ensure high-quality software development. It is a representation of the software development life cycle that highlights the relationship between development phases and corresponding testing phases.

# 4. what is functional programming?

In <u>computer science</u>, **functional programming** is a <u>programming</u> <u>paradigm</u> where programs are constructed by <u>applying</u> and <u>composing functions</u>. It is a <u>declarative</u> <u>programming</u> paradigm in which function definitions are <u>trees</u> of <u>expressions</u> that map <u>values</u> to other values, rather than a sequence of <u>imperative</u> <u>statements</u> which update the <u>running state</u> of the program.

# 5. what is functional programming frameworks?

#### 1. Scala:

- **Akka**: A toolkit and runtime for building highly concurrent, distributed, and fault-tolerant systems using the Actor model.
- **Cats**: A library that provides abstractions for functional programming in Scala, including type classes and data types like Monads and Functors.

#### 2. Haskell:

- **Yesod**: A web framework for Haskell that promotes type-safe, RESTful web applications using functional programming principles.
- **Scotty**: A lightweight web framework for Haskell that is simple and expressive, suitable for building RESTful APIs.

#### 3. Clojure:

- **Ring**: A Clojure library for handling HTTP requests and responses, enabling the creation of web applications in a functional style.
- **Compojure**: A routing library for Clojure that simplifies the creation of web applications using concise and declarative route definitions.

#### 4. **F#**:

- **Fable**: A compiler that allows F# code to be compiled to JavaScript, enabling functional programming on the frontend using F#.
- **Suave**: A lightweight web server and web framework for F# that supports functional programming patterns for building web applications.

#### 5. Elixir:

• **Phoenix**: A web framework for Elixir that promotes real-time applications and follows the functional programming paradigm

### 6.difference between ERD and EERD:

ERD stands for Entity-Relationship Diagram, and for Enhanced Entity-Relationship Diagram. Both are visual representations used in database design to model the structure of a database and the relationships between different entities. However, an EERD is an extension of an ERD, introducing additional modelling concepts for more complex scenarios.

## 7. what is RPA?

RPA stands for Robotic Process Automation. It is a technology that uses software robots (also known as bots or agents) to automate repetitive and rule-based tasks that were previously performed by humans. RPA aims to increase operational efficiency, reduce errors, and free up human workers from mundane tasks so they can focus on more value-added activities.