

## Experiment No: 03

### Aim: SCALA using Apache Spark framework

#### Problem Statement:

Write a simple program in SCALA using Apache Spark framework

#### Theory:

Scala is an acronym for “Scalable Language”. It is a general-purpose programming language designed for the programmers who want to write programs in a concise, elegant, and type-safe way. Scala enables programmers to be more productive. Scala is developed as an object-oriented and functional programming language.

If you write code in Scala, you will see that the style is similar to a scripting language. Even though Scala is a new language, it has gained enough users and has a wide community support. It is one of the most user-friendly languages. Scala is an object-oriented programming language. Everything in Scala is an object and any operations you perform is a method call. Scala, allow you to add new operations to existing classes with the help of implicit classes.

One of the advantages of Scala is that it makes it very easy to interact with Java code. You can also write Java code inside Scala class. The Scala supports advanced component architectures through classes and traits. Scala is a programming language that has implemented major functional programming concepts. In Functional programming, every computation is treated as a mathematical function which avoids states and mutable data. The functional programming exhibits following characteristics:

- Power and flexibility
- Simplicity
- Suitable for parallel processing

Scala is not a pure functional language. Haskell is an example of a pure functional language.

Scala is a compiler based language which makes Scala execution very fast if you compare it with Python (which is an interpreted language). The compiler in Scala works in a similar fashion as Java compiler. It gets the source code and generates Java byte-code that can be executed independently on any standard JVM (Java Virtual Machine).

Scala is now a big name. It is used by many companies to develop commercial software. These are the following notable big companies which are using Scala as a programming alternative.

- LinkedIn

- Twitter
- Foursquare
- Netflix
- Tumblr
- The Guardian
- Precog
- Sony
- AirBnB
- Klout
- Apple

**Conclusion:** Hence we have studied and implemented SCALA using Apache Spark framework.