Assignment No: 11

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Subject - DSBDAL

Problem Statement

Write a simple program in SCALA using Apache Spark Framework.

Theory -

Installation of SCALA-

It is necessary to install Java before installing Scala.

Step1: Verifying Java Installation

$java -version

Step2: Once java is installed we need to install Scala.

$scala -version

Step3: Downloading Scala

https://spark.apache.org/downloads.html

Step4: Installing Scala

Extract the scala tar file

Type the following command for extracting the Scala tar file.

$tar xvf scala-2.11.6.tgz

Move Scala Software files (C drive)

Set PATH for scala

(Control panel-env Variable-new-SPARK_HOME, value-C:\spark.

To Set Path - %SPARK_HOME%\BIN)

Steps: Verifying Scala Installation

$ spark-shell

Compile a Scala Program -

To run any scala program, you first need to compile it. "scalac" is the compiler which takes source program as an argument and generates object files as output.

Let's start Compiling your "HelloWorld" program using the following steps:

1. For compiling it you first need to paste this program as HelloWorld.scala.
2. Now you need change your working directory to the directory where your program is saved.
3. After changing the directory you can compile the program by issuing the command

   scalac HelloWorld.scala
4. After Compiling you will get HelloWorld.class as an output in the same directory. If you can see the files you have successfully compiled the program.

Running Scala Program -

Command :- scala HelloWorld

* Mention How Scala is differen from Java

→ Scala is a statically typed programming language whereas Java is a multi-platform, network-centric, programming language. Java is an object-oriented general purpose programming language whereas Scala is a mixture of functional programming.

* What is the difference between var & value in Scala &

→

	var	val
①	used to initalize variables in Scala.	used to initialize read only Variables in Scala
②	Variables are Initalized at Compile time.	Variables are initialized at Compile time.
③	Used to define mutable Variables.	Used to define immutable Variables.
④	Syntax - var myVar = 32;	Syntax - Val myVal = 43;

* What are the advantages of Scala.

→ ① Working with Scala is more productive than coorking with Java.
② Scala is faster than Python and R because it is compiled language.
③ Scala is a functional language.

* Mention the different types of Scala literals.

→ ① Integer Literals
② floating point Literals
③ Character Literals
④ String Literals
⑤ Multi-line String Literals
⑥ Boolean literals

* what is the difference between Scala & Java.

→

	Scala	Java
①	Scala is a mixture of both Object oriented & functional programming.	Java is a general purpose Object Oriented language.
②	Scala is less reddable due to nested code.	Java is more redable.
③	Supports operator Overloading.	Does not support operator overloading
④	Supports lazy evaluation.	Does not support lazy evaluation

* Define types of Scala indentifires

→ ① Alphanumeric Identifiers
② operator Identifiers
③ Literal Identifiers

conclusion-