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BIG DATA  
HOMEWORK 3

Q 1: Write an object `Conversions` with methods `inchesToFeet`, `milesToKms` and `poundsToKilos` and invoke its methods from a class of your choice:

```
object Conversions {      def inchesToCentimeters(inches:
Double) = inches * 2.54

    def gallonsToLiters(gallons: Double) = gallons * 3.78541

    def milesToKilometers(miles: Double) = miles * 1.60934
}
```

Q 2: Write a Scala program to get the largest element of an array using `reduceLeft`:

```
scala> val a = Array(20, 12, 6, 15, 2, 9)
a: Array[Int] = Array(20, 12, 6, 15, 2, 9)
scala> a.reduceLeft(_ min _)
res: Int = 2

scala> a.reduceLeft(_ max _) res:
Int = 20
```

Q 3:Write a Scala code which reverses the lines of a file (makes the first line as the last one, and so on):

```
val filename = "/tmp/quote.txt"
io.Source.fromFile(filename)
  .getLines.toArray
  .reverse
  .mkString("\n")
```

Q 4:Mention the types of Variables in Scala? And What is the difference between them?

Each variable declaration is preceded by its type. By contrast, Scala has two types of variables: `val` creates an immutable variable (like `final` in Java) `var` creates a mutable variable

Q 5:Mention the Advantages of Scala:

The Advantages of Scala

Scala has an exact syntax, eliminating boilerplate code. Programs written in Scala require less code than similar programs written in Java. It is both an object-oriented language and a functional language.

This combination makes Scala the right choice for web development

Q 6:Explain the Operators in Scala:

Divide AND Assignment (`/=`) operator is used for dividing left operand with right operand and then assigning it to variable on the left.

Modulus AND Assignment (`%=`) operator is used for assigning modulo of left operand with right operand and then assigning it to the variable on the left.

**Q 7:How is a Class different from an Object?**

**Class vs Object:**

**A class is a blueprint for declaring and creating objects.**

**An object is a class instance that allows programmers to use variables and methods from inside the class.**

**Memory is not allocated to classes. Classes have no physical existence.**

**Q 8:Mention how Scala is different from Java:**

**Key Difference between Scala and Java:**

**Scala is a statically typed programming language, whereas Java is a multiplatform, network-centric programming language.**

**Scala uses an actor model for supporting modern concurrency, whereas Java uses the conventional thread-based model for concurrency.**

**Q 9:Explain the access Modifiers available in Scala:**

**Access Modifiers in scala are used to define the access field of members of packages, classes or objects in scala.**

**For using an access modifier, you must include its keyword in the definition of members of package, class or object.**

**These modifiers will restrict accesses to the members to specific regions of code**

