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Big Data Analytics

Module 3 Homework

Sqoop and Scala Programming

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

}

2. Write a Scala program to get the largest element of an array using reduceLeft

object Sample {

def main(args: Array[String]) {

var IntArray = Array(10,50,40,20,30) var count:Int=0

var large:Int=0

large=IntArray(0) while(count<IntArray.size)

{

if(large<IntArray(count))

large=IntArray(count)

count=count+1 }

printf("Largest element is: %d\n",large)

} }

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

al filename = "/tmp/quote.txt" io.Source.fromFile(filename) .getLines.toArray

.reverse

.mkString("\n")

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

In Scala there are two types of variables:

- Mutable Variables
- Immutable Variables

The mutable objects can be changed to any value or state without adding a new object. Whereas, the immutable objects cannot be changed to its value or state once it is created. In the case of immutable objects, whenever we change the state of the object, a new object will be created.

5. Mention 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

6. Explain the Operators in Scala

```
object Assignop {
def main(args: Array[String]) {
var a = 50;
var b = 40;
var c = 0;
c = a + b;
println("simple addition: c= a + b = " + c); c += a;
println("Add and assignment of c += a = " + c);
c -= a;
println("Subtract and assignment of c -= a = " + c); c *= a;
println("Multiplication and assignment of c *= a = " + c); c /= a;
println("Division and assignment of c /= a = " + c);
c %= a;
println("Modulus and assignment of c %= a = " + c); c <<= 3;
```

```
println("Left shift and assignment of c <<= 3 = " + c); c >>= 3;
println("Right shift and assignment of c >>= 3 = " + c); c &= a;

println("Bitwise And assignment of c &= 3 = " + c);

c ^= a;

println("Bitwise Xor and assignment of c ^= a = " + c); c |= a;

println("Bitwise Or and assignment of c |= a = " + c); }

}
```

7. How is a Class different from an Object?

Class is a detailed description, the definition, and the template of what an object will be. But it is not the object itself. Also, what we call, a class is the building block that leads to Object-Oriented Programming. It is a user-defined data type, that holds its own data members and member functions, which can be accessed and used by creating an instance of that class. It is the blueprint of any object.

Object is an instance of a class. All data members and member functions of the class can be accessed with the help of objects. When a class is defined, no memory is allocated, but memory is allocated when it is instantiated (i.e. an object is created)

8. Mention how Scala is different from Java

Scala is a statically typed programming language, whereas Java is a multi-platform, network-centric programming language. Scala uses an actor model for supporting modern concurrency, whereas Java uses the conventional thread-based model for concurrency.

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