Week 5

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Section: ML

Roll Number: 10

1. Develop a calculator for two numbers(user defined using console for input)using Scala Anonymous(Inline) function with following capability : a. Divide b. Multiply c. Subtract d. Addition

Solution 1:

```
object Calculator {
  def main(args : Array[String])={
    print("Enter the number1 : ");
    val a:Double = scala.io.StdIn.readDouble();
    print("Enter the number2 : ");
    val b:Double = scala.io.StdIn.readDouble();
    print("Enter the operator : ");
    val c:Char = scala.io.StdIn.readChar();
    print(a + " " + c + " " + b + " = " + calc(a,b,c));
  }

  def calc(a:Double,b:Double,c:Char):Double=
  {
          var add = (x:Double,y:Double) => x+y;
          var sub = (x:Double,y:Double) => x-y;
```

```
        var mul = (x:Double,y:Double) => x*y;
        var div = (x:Double,y:Double) => x/y;
        var d:Double=0;
        if(c=='+')
          return add(a,b);
        else if(c=='-')
          return sub(a,b);
   else if(c=='*')
                return mul(a,b);
   else
    return div(a,b);
  }
}
```

2. Write a scala program to convert : a. temperature from Fahrenheit to Celsius degree. b. a number in inches to meters. c. Year to number of days.

Solution 2:

```
object converter {
  def main(args: Array[String]): Unit = {
    while(true){
     println("Type :-");
     println("1) to Convert Farhenheit to Celcius degree");
     println("2) to Convert inches to meters");
     println("3) to Convert year to days");
     println("4) to Exit");
     print("Enter the choice : ");
     val ch:Int=scala.io.StdIn.readInt();
```

```
    if(ch==4)
      return;
    println("result = "+calc(ch));
    println();
  }
}

def calc(ch:Int):Any={
                var res:Any=0;
  ch match{
                  case 1=>print("Enter the temprature : ");
                        var t:Double=scala.io.StdIn.readDouble();
                        res=(t-32)*5/9;

                  case 2=>print("Enter the length : ");
                        var l:Double=scala.io.StdIn.readDouble();
                        res=l*0.0254;

                  case 3=>print("Enter the year : ");
                        var y:Int=scala.io.StdIn.readInt();
                        if(y%4==0)
                              res = 366;
                        else
                          res = 365;
                }
  return res;
```

```
  }
}
```

3. Write a scala program that reads a number(dynamic) and display its square, cube, and fourth power.

Solution 3:

```
import scala.math
object predefMethod {
  def main(args: Array[String]): Unit = {
    print("Enter the number : ");
    val x:Double = scala.io.StdIn.readDouble();
    print("Enter the power : ");
    val y:Double = scala.io.StdIn.readDouble();
    println(x + " ^ " + y + " = " + math.pow(x, y));
  }
}
```

4. Write a scala program to check the given number is a prime number or not. (Number can be static or dynamic)

```
import scala.math
object primeCheck {
  def main(args : Array[String])={
    val x:Int=scala.io.StdIn.readInt();
    if(isPrime(x))
      println(x+" is prime.");
    else
      println(x+" is not prime.");
```

```
  }

  def isPrime(x:Int):Boolean={
                    for(i<-2 to math.sqrt(x).asInstanceOf[Int])
                      if(x%i==0)
                        return false;
                    return true;
  }
}
```