1. **Scala program to print your name.**

```
object ExPrintName {
  def main(args: Array[String]) {
    println("My name is Mike!")
  }
 }
```

2. **Scala program to find largest number among two numbers.**

```
object HelloWorld {
  def main(args: Array[String]) {
    var num1 = 20;
    var num2 = 30;
    if(num1>num2){
      println("largest number is : "+num1);
    }
    else{
      println("largest number is: "+num2);
    }
  }
}
```

3. **Scala program to find a number is positive, negative or positive.**

```
object HelloWorld {
  def main(args: Array[String]) {
    var num1 = (-100);

    if(num1>0){
      println("The given number "+num1+" is positive");
    }
    else if(num1<0){
      println("The given number "+num1+" is negative");
    }
    else{
      println("number is zero");
    }
  }
}
```

4. **Scala program to declare string variable and print the string.**

```
object HelloWorld {
  def main(args: Array[String]) {
   val text : String ="You are reading scala programming language";
   println("value of the string is "+text)
  }
}
```

5. Scala program to demonstrate example of multiple variables declarations and assignments.

```
object HelloWorld {
  def main(args: Array[String]) {
    var (name : String, age : Int)= Pair("mike",21);
    println("name : "+name);
    println("age : "+age);
    var (address,mobile) = Pair("New Delhi , India",123456789);
    println("Address : "+address);
    println("Mobile : "+mobile);
  }
}
```

6. Scala program to print numbers from 1 to 100 using for loop.

```
  def main(args: Array[String]) {
     var i: Int=0;
    for(i<-1 to 100){
       println(i);
    }
  }
}
```

7. Scala program to print numbers from 1 to 100 using for loop with until to determine loop range.

```
object HelloWorld {
  def main(args: Array[String]) {
     var counter : Int=0;
     for(counter<-0 until 101)
     {
        println(counter)
     }
  }
}
```

8. Scala program to demonstrate example of collection list and for loop.

```
object HelloWorld {
  def main(args: Array[String]) {
    var N:Int=0;
     var numbers=List(100,200,300,400);
     for(N<-numbers){
        println(N);
     }
  }
}
```

9. Scala program to create a user define function to return largest number among two numbers.

```
object HelloWorld{
   def getLargestNumber(x: Int,y: Int): Int={
```

```
    var temp: Int=0;
    if(x>y){
       temp=x;
    }
    else
    {
       temp=y;
    }
    return temp;
 }

 def main(args: Array[String]) {

    var a: Int=10;
    var b: Int=20;
    var n: Int=0;
    n=getLargestNumber(a,b);
    println("the larest number among the two is : "+n);
    }
}
```

10. Scala program to check if a number is even

```
object HelloWorld {

    def main(args: Array[String]) {

       var counter=0;

       var n=15;

       for(counter <-1 to n){

          if(counter%2==0){

          println(counter + " ")

          }

       }

    }}
```

10. Scala program to check if a number is odd or even

```
object HelloWorld {
    def main(args: Array[String]) {
       var n=15;
          if(n%2==0){
          println("number is even ")
          }
          else{
             println("number is odd")
          }
```

```
    }
}
```

11. Scala program of array - Declare, print and calculate sum of all elements.

```
object HelloWorld{

  def main(args: Array[String]) {

    var numbers=Array(10,20,30,40,50);
    var n: Int=0;
    for(n<-numbers){
       println(n);
    }
    var sum: Int=0;
    for(n<-numbers){
       sum+=n;
    }
    println("sum of all array elements : "+sum)

    }
  }
```

12. Scala program to perform linear search

```
/* Online Scala Compiler */
object HelloWorld {
  def main(args: Array[String]) {
    var numbers= Array(10,20,30,40,50);
    var i=0;
    var element: Int=20;
    for(i<-0 until numbers.length)
    {
       if(element==numbers(i))
       {
          println("number found");
          return;
       }
    }
    println("number not found");
```

```
  }
}
```

1. **Scala program to create a simple function**

```
object HelloWorld{
  def main(args: Array[String]) {
     simpleFun();
     }
  def simpleFun(){
     println("hello");
  }
  }
```

2. **Scala program to create a function with arguments**

```
object HelloWorld{

  def main(args: Array[String]) {

     println(addnum(5,6));
     }
  def addnum(x:Int,y:Int): Int={
     var sum: Int=0;
    sum=x+y;
    return sum;
  }
  }
```

3. **Scala program to return a value from a function using the 'return' statement**

```
object HelloWorld{
  def main(args: Array[String]){
     println(addnum(5,6));
     }
  def addnum(x:Int,y:Int): Int={
     var sum: Int=0;
    sum=x+y;
    sum;
  }
  }
```

4. **Scala program to return a value from the function without using the 'return' statement**

```
object HelloWorld{

  def main(args: Array[String]) {

     println(addnum(5,6));
     }
  def addnum(x:Int,y:Int): Int={
     var sum: Int=0;
```

```
        sum=x+y;
        sum;
      }
      }
```

5. Scala program to create a function with default arguments

```
object HelloWorld{

  def main(args: Array[String]) {
     println(addnum(5,6));
     println(addnum(5));
     println(addnum());
     }
  def addnum(num1:Int = 10,num2:Int=30): Int={
     var result : Int=0;
     result = num1+num2;
     result;
  }
  }
```

6. Scala program to call a function with named parameters

```
object HelloWorld{

  def main(args: Array[String]) {

     println(addnum(5,6));
     println(addnum(5,5));

     }
  def addnum(num1:Int,num2:Int): Int={
     var result : Int=0;
     result = num1+num2;
     result;
  }
  }
```

Q. TO PASS ARRAY AS ARGUMENT TO A FUNCTION

```
object HelloWorld{

  def main(args: Array[String]) {

     var arr= Array(1,2,3,4,5,6);
     printArray(arr);

     }
  def printArray(arr:Array[Int]){
    var i: Int=0;
    println("elements of the array are : ");
    while(i<arr.length){
       printf("%d \n",arr(i));
       i=i+1;
    }
```

```
  }
}
```

q. scala program to double elements in an array

```
object HelloWorld {

   def main(args: Array[String]) {
      val a=Array(2,3,5,7,11);
      var i:Int=0;
      while(i<a.length)
      {
         println(a(i)*2);
         i=i+1;
      }
      }
}
```

q. scala program to print only positive elements in an array

1. Scala program to print numbers from 1 to 10 using while, do-while, and for loop

```
object HelloWorld{

  def main(args: Array[String]) {

   var count:Int =0;
   while(count<10){
      printf("%d\n",count);
      count=count+1;
   }
   do{
      printf("%d\n",count);
      count=count+1;
   }while(count<=10);
  }
}
```

2. Scala program to implement infinite loop using while and do-while loop

```
object HelloWorld{

  def main(args: Array[String]) {
   do{
      println("hello")
   }while(true);
  }
```

```
    }
```

LOOPS

```
object HelloWorld{

  def main(args: Array[String]) {
 var i: Int=0;
 var j:Int =0;
 for(i<-1 to 3; j<-1 to 3){
    print(f"${10*i+j} \n");
 }
  }
  }
```

O/p

```
11
12
13
21
22
23
31
32
33
```

```
object HelloWorld{

  def main(args: Array[String]) {
 var i: Int=0;
 var j:Int =0;
 for(i<-1 to 3; j<-1 to 3 if i!=j){
    print(f"${10*i+j} \n");
 }
  }
  }
```

```
12
13
21
23
31
32
```

```
object HelloWorld{

  def main(args: Array[String]) {
 var i: Int=0;
 var j:Int =0;
 var from=0;
 for(i<-1 to 3; from=4-i;j<-from to 3 ){
    print(f"${10*i+j} \n");
 }
  }
  }
```

13
22
23
31
32
33

Variable number of arguments

```
object HelloWorld{

  def main(args: Array[String]) {
  println(sum(1,2,3,4,5));
  }
  def sum(args:Int*)={
     var result=0;
     for(arg<-args)result+=arg;
     result;
  }
  }
```

O/p 15

REVERSE LOOP

```
object HelloWorld{
  def main(args: Array[String]) {
  for(i<-10 to 0 reverse){
     println(i)
  }
  }
  }
```

OR

```
object HelloWorld{

  def main(args: Array[String]) {
  for(i<-10 to 0 by -1){
     println(i);
  }
  }
  }
```

Q. program to print BMSCE using function call

```
/* Online Scala Compiler */

object HelloWorld {

   def box(s : String) {


val border = "-" * (s.length + 2)
```

```
print(f"$border%n|$s|%n$border%n")


   }


  def main(args: Array[String]) {
    box("BMSCE");
  }
}
```

q. scala program to perform operations on on string using for loop

```
object HelloWorld {
  def main(args: Array[String]) {
      for (c <- "Hello"; i <- 0 to 1) {
         print((c + i).toChar);
      }
   }
}
```

```
object HelloWorld {
   def main(args: Array[String]) {
      for (i <- 0 to 1; c <- "Hello"){
         print((c + i).toChar);
      }
   }
}
```

q. scala program to print alternate element in array

```
  object HelloWorld {
 def main(args: Array[String]) {
      var b= Array(1,2,3,4,5,6,7,8);
      var i : Int=0;

      for(i<-0 until b.length by 2) {
         println(b(i));
      }
   }
}
```

Not right

```
import scala.collection.mutable.ArrayBuffer;
object HelloWorld {

   def main(args: Array[String]) {
      val a=Array(-2,-3,5,7,11);
      var i:Int=0;
     val pos=for(i<-a.indices if a(i)<0)yield i;
     for(i<-pos.reverse)a.remove(i);
     while(i<a.length)
     {
        println(a(i));
     }
}
}
```

1. Program to run wordcount on scala shell

Note- Create a textfile sparkdata.txt locally and give appropriate path while loading the data using sc.textFile

```
val data=sc.textFile("sparkdata.txt")
data.collect;
val splitdata = data.flatMap(line => line.split(" "));
splitdata.collect;
val mapdata = splitdata.map(word => (word,1));
mapdata.collect;
val reducedata = mapdata.reduceByKey(_+_);
reducedata.collect;
```

2. Using RDD and FlaMap count how many times each word appears in a file and write out a list of words whose count is strictly greater than 4 using Spark.

```
val textFile = sc.textFile("/home/bhoom/Desktop/wc.txt")
val counts = textFile.flatMap(line => line.split(" ")).map(word => (word, 1)).reduceByKey(_ + _)
import scala.collection.immutable.ListMap
val sorted=ListMap(counts.collect.sortWith(_._2 > _._2):_*)// sort in descending order based on values
println(sorted)
for((k,v)<-sorted)
{
if(v>4)
{
print(k+",")
print(v)
println()
}
}
```