Q 1. Create list using five different methods and display each of them. (List style, java style, fill, range, tabulate method)

Ans:

```
object list
{
	def main(args:Array[String])
	{
		println("\n----------1. Lisp style ----------\n")
		val lisp_list = 100 :: 200 :: 300 :: Nil :: 400 :: Nil
		println(lisp_list)
		println("\n ----------2. Java style ---------- \n")
		val nums = List(1,2,3,4,5,6,7,8)
		println(nums)
		println("\n ----------3. fill method ---------- \n ")
		val fill_num = List.fill(3)("scala")
		println("programming language : "+fill_num)
		val num = List.fill(8)(4)
		println("number: "+num)
		println("\n ----------4. range method ----------\n ")
		val y = List.range(1,20)
		println("without using seperator: "+y)
		val z = List.range(0,30,3)
		println("using seperator: "+z)
		println("\n ----------5. tabulate method ----------\n ")
		val t = List.tabulate(10)(n => n * n * n)
		println(t)
	}
}
```

Output:

----------1. Lisp style ----------

List(100, 200, 300, List(), 400)

----------2. Java style ----------

List(1, 2, 3, 4, 5, 6, 7, 8)

----------3. fill method ----------

programming language : List(scala, scala, scala)

number: List(4, 4, 4, 4, 4, 4, 4, 4)

----------4. range method ----------

without using seperator: List(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19)

using seperator: List(0, 3, 6, 9, 12, 15, 18, 21, 24, 27)

----------5. tabulate method ----------

List(0, 1, 8, 27, 64, 125, 216, 343, 512, 729)

Q2. Create a list of 50 members using the function 2n+3. Create second list excluding all elements multiple of 5.

Ans:

```
object list_func
{
	def main(args:Array[String])
	{
		val a = List.tabulate(50)(n => 2*n+3)
		println(a)
		val n = a.filter(y => y % 5 != 0)
		println(n)
	}
}
```

Output:

List(3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101)

List(3, 7, 9, 11, 13, 17, 19, 21, 23, 27, 29, 31, 33, 37, 39, 41, 43, 47, 49, 51, 53, 57, 59, 61, 63, 67, 69, 71, 73, 77, 79, 81, 83, 87, 89, 91, 93, 97, 99, 101)