

Anonymous and higher order functions

1) What does the following code snippets print and explain?

(Note: Please try to answer these yourself first before running them in the Scala shell)

- a.

```
def triple(x: Int): Int = x * 3
val tripleCopy: (Int) => Int = triple
println(tripleCopy(5))
```
- b.

```
def m(x: Int, y: Int): Int = {
  if (x > y) x else y
}
val max: (Int, Int) => Int = m
println(max(88, 99))
```
- c.

```
var fullName = (first: String, last: String) => {
  s"$first $last"
}
println(fullName("bob", "loblaw"))
```
- d.

```
val hi = () => "howdy!"
println(hi())
```
- e.

```
def play(thing: String): String = {
  s"Let's play with $thing"
}
def funify(thing: String, f: String => String): String = {
  f(thing) + " and have fun"
}
println(funify("cats", play))
```

2) Implement the following in Scala,

Define a function named "toUpper" which accepts a String as input parameter that is then formatted to upper case as output.

Define another function named "toLower" which accepts a String as input parameter and formats the input to lower case as output.

Define another function named "formatNames" which also has an input String called "name". This function however has another parameter which accepts functions with an input of type String and also outputs a String. This particular function will be used to apply the given format to the "name" input.

You can use the test inputs for say, "Scala", "Spark", and "BigData", and make sure that the output is as shown below.

```
SCALA
spark
BIGDATA
```