FOUNDATION

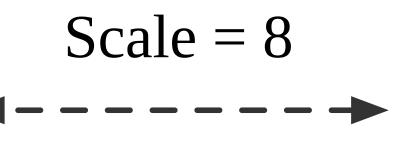
```
def format(scale: Int, number: Double): String
```

1234.12345678

```
def format(scale: Int, number: Double): String
```

```
format(2, 1234.12345678)
// res0: String = "1234.12"

format(5, 1234.12345678)
// res1: String = "1234.12345"
```



1234.12345678

```
def format(scale: Int, number: Double): String =
    ...

def format2D(number: Double): String = format(2, number)
def format5D(number: Double): String = format(5, number)
```

```
format2D(1234.12345678)
// res2: String = "1234.12"

format5D(1234.12345678)
// res3: String = "1234.12345"
```

```
def publishEvent(
  hostname: String,
  port : Int,
  topic : String,
  key : String,
  event : Event
): Unit
```

```
def publishEvent(
  hostname: String,
  port : Int,
  topic : String,
  key : String,
  event : Event
): Unit
```

```
def publishLocalEvent(topic: String, key: String, event: Event): Unit =
  publishEvent("localhost", 9000, topic, key, event)
```

```
def publishUatEvent(topic: String, key: String, event: Event): Unit =
  publishEvent("uat-acme.com", 12450, topic, key, event)
```

```
def publishEvent(
  hostname: String,
  port : Int,
  topic : String,
  key : String,
  event : Event
): Unit
```

```
def publishLocalEvent = publishEvent("localhost", 9000)
def publishUatEvent = publishEvent("uat-acme.com", 12450)
```

Pseudocode

```
def format(scale: Int, number: Double): String
format(2, 1234.12345678)
// res5: String = "1234.12"
```

```
def format(scale: Int): Double => String
format(2)(1234.12345678)
// res7: String = "1234.12"
```

```
def format(scale: Int, number: Double): String
format(2, 1234.12345678)
// res5: String = "1234.12"
```

```
def format(scale: Int): Double => String

format(2)(1234.12345678)
// res7: String = "1234.12"
```

Currying

```
val function3: (Int , Int , Int) => Int
val function3: Int => (Int => (Int => Int))
```

```
def format(scale: Int, number: Double): String
format(2, 1234.12345678)
// res9: String = "1234.12"
```

```
def format(scale: Int): Double => String
format(2)(1234.12345678)
// res11: String = "1234.12"
```

Currying

```
val function3: (Int , Int , Int) => Int
val function3: Int => Int => Int => Int
```

Partial function application

```
def format(scale: Int): Double => String
```

```
val format2D = format(2)
val format5D = format(5)
```

Partial function application

```
def format(scale: Int): Double => String
```

```
val format2D = format(2)
val format5D = format(5)
```

```
format2D(1234.12345678)
// res12: String = "1234.12"

format5D(1234.12345678)
// res13: String = "1234.12345"
```

Syntax

Uncurried

```
def format(scale: Int, number: Double): String
```

Curried

```
def format(scale: Int)(number: Double): String
def format(scale: Int): Double => String
val format: Int => Double => String
```

Conversion (Currying)

```
def format(scale: Int, number: Double): String
```

Conversion (Currying)

```
def format(scale: Int, number: Double): String
```

```
format _
// res15: (Int, Double) => String = <function2>
```

Conversion (Currying)

```
def format(scale: Int, number: Double): String
```

```
format _
// res15: (Int, Double) => String = <function2>
```

```
(format _).curried
// res16: Int => Double => String = scala.Function2$$Lambda$7196/0x0000000102221040@27721800
```

Summary

- A curried function can be partially applied
- Only works from left to right arguments
- One more thing ...

Exercise 2: Functions as output

exercises.function.FunctionExercises.scala