

Scala Lab Session 01

22001281

Area of a disk with radius r is πr^2 . What is the area of a disk with radius 5?

```
scala> def sq(num:Float) = num * num
def sq(num: Float): Float

scala> def area(r:Float) = java.lang.Math.PI * sq(r)
def area(r: Float): Double

scala> area(5)
val res0: Double = 78.53981633974483

scala> |
```

The temperature is 35C; convert *this* temperature into Fahrenheit. $^{\circ}\text{F} = ^{\circ}\text{C} * 1.8000 + 32.00$

```
scala> def Cmulti(deg:Float) =deg*1.8
def Cmulti(deg: Float): Double

scala> def ToFahrenheit(degC:Float) = Cmulti(degC) + 32.0
def ToFahrenheit(degC: Float): Double

scala> ToFahrenheit(35)
-- [E006] Not Found Error: -----
1 | ToFahrenheit(35)
  | ^^^^^^^^^^^^^
  | Not found: ToFahrenheit
  | longer explanation available when compiling with '-explain'
1 error found

scala> ToFahrenheit(35)
val res1: Double = 95.0

scala> |
```

The volume of a sphere with radius r is $\frac{4}{3} \pi r^3$. What is the volume of a sphere with radius 5?

```
scala> def ToSquare(i:Float) = i * i
def ToSquare(i: Float): Float

scala> def ToCube(i:Float) = ToSquare(i) * i
-- [E006] Not Found Error: -----
1 | def ToCube(i:float) = ToSquare(i) * i
  |           ^^^^^
  |           Not found: type float
  |
  | longer explanation available when compiling with '-explain'
1 error found

scala> def ToCube(i:Float) = ToSquare(i) * i
def ToCube(i: Float): Float

scala> def SphereVolume(r:Float) = 4 * ToCube(r) * java.lang.Math.PI / 3
def SphereVolume(r: Float): Double

scala> SphereVolume(5)
val res2: Double = 523.5987755982989

scala> |
```

Suppose the cover price of a book is Rs. 24.95, but bookstores get a 40% discount. Shipping costs Rs. 3 for the first 50 copies and 75 cents for each additional copy. What is the total wholesale cost for 60 copies?

```
scala> def CoverPrice(book:Int, price:Float):Float = book * price
def CoverPrice(book: Int, price: Float): Float

scala> def Discount(book:Int, price:Float, discount:Int):Float = CoverPrice(book, price) * discount / 100
def Discount(book: Int, price: Float, discount: Int): Float

scala> def Shipping(book:Int):Float = if(book > 50) 50f*3f + 0.75f * (book - 50f) else book*3f
def Shipping(book: Int): Float

scala> Shipping(60) + Discount(60)
-- [E171] Type Error: -----
1 | Shipping(60) + Discount(60)
  |           ^^^^^^^^^^^^^
  |           missing argument for parameter price of method Discount: (book: Int, price: Float, discount: Int): Float
1 error found

scala> Shipping(60) + Discount(60, 24.95, 40)
val res4: Float = 756.3

scala> |
```

I run 2 km at an easy pace (8 min per km), then 3 km at Tempo (7 min per km) and 2 km at easy pace again to reach home. What is the total running time

```
scala> def ep(x:Int):Int = x*8
def ep(x: Int): Int

scala> def tempo(y:Int):Int = y*7
def tempo(y: Int): Int

scala> ep(2) + tempo(3) + (2)
val res3: Int = 39

scala> |
```