SCS 2204 – Practical 01

Index: 22002197

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1)

```
def areaOfDisk(r : Double) : Double = {
    return Pi * pow(r, 2);
}
```

2)

```
def toFarenheit(tCel : Double) : Double = {
    return 32.00 + tCel * 1.8000;
}
```

3)

```
def sphereVolume(r : Double) : Double = {
    return (4/3) * Pi * pow(r, 3);
}
```

4)

```
def calculateShippingCost(n : Int) : Double = {
    if(n < 50) {
        return n * 3;
    }
    return (n - 50) * 0.75 + n * 50;
}

def manufacturingCost(p : Double) : Double ={
    return 10 / 14 * p;
}

def wholesaleCost(n : Int, p : Double) : Double = {
    return calculateShippingCost(n) + n * manufacturingCost(p);
}
```

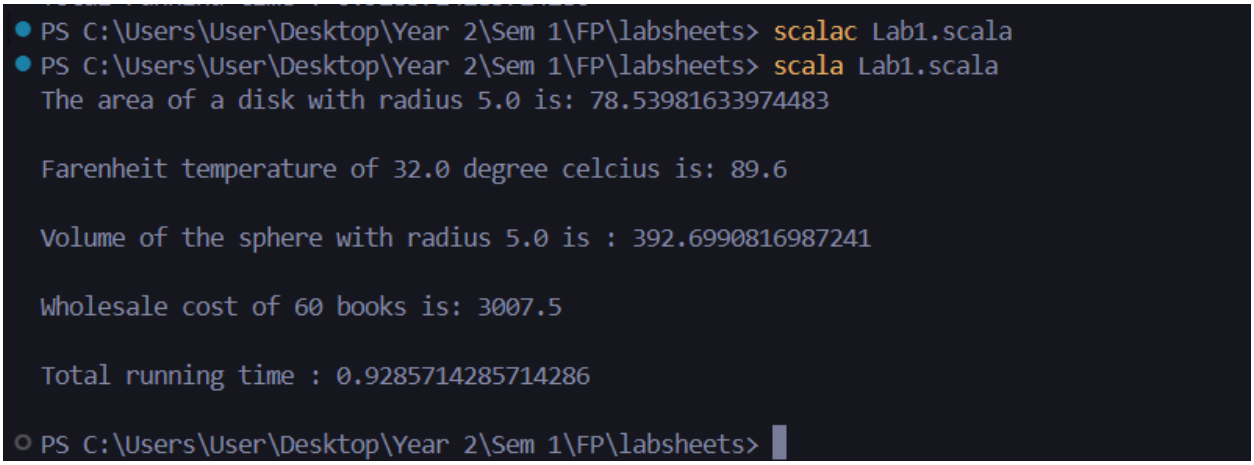
5)

```
def easyTime(d : Double, s : Double): Double = {
    return d / s;
}

def tempoTime(d : Double, s : Double): Double = {
    return d / s;
}

def fullTime(): Double = {
    return easyTime(2, 8) + easyTime(2, 8) + tempoTime(3, 7);
}
```

Main Function:

```
def main(args: Array[String]) : Unit = {
    val radius = 5.00;
    val area = areaOfDisk(radius);
    printf(s"The area of a disk with radius $radius is: $area \n\n");

    val temp = 32.00;
    val ftemp = toFarenheit(temp)
    printf(s"Farenheit temperature of $temp degree celcius is: $ftemp \n\n" );

    val volume = sphereVolume(radius);
    printf(s"Volume of the sphere with radius $radius is : $volume \n\n");

    val cost = wholesaleCost(60, 24.95);
    printf(s"Wholesale cost of 60 books is: $cost \n\n");

    val time = fullTime();
    printf(s"Total running time : $time \n\n");

}
```

Output:


PS C:\Users\User\Desktop\Year 2\Sem 1\FP\labsheets> scalac Lab1.scala
PS C:\Users\User\Desktop\Year 2\Sem 1\FP\labsheets> scala Lab1.scala
The area of a disk with radius 5.0 is: 78.53981633974483
Farenheit temperature of 32.0 degree celcius is: 89.6
Volume of the sphere with radius 5.0 is : 392.6990816987241
Wholesale cost of 60 books is: 3007.5
Total running time : 0.9285714285714286
PS C:\Users\User\Desktop\Year 2\Sem 1\FP\labsheets>