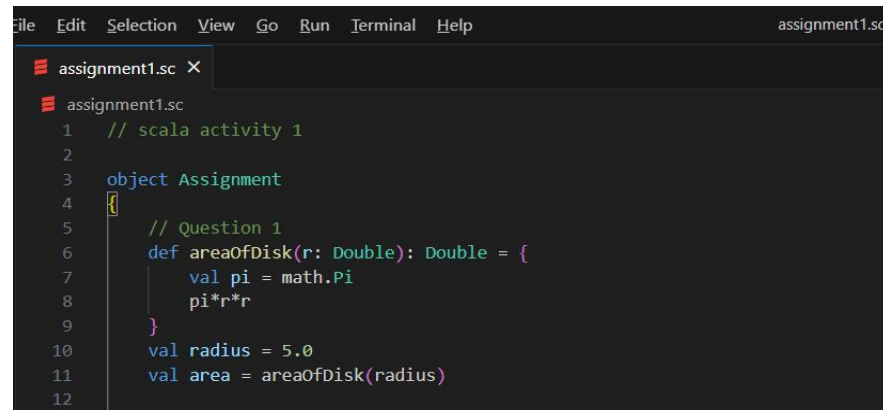


SCS 2204

Name : Visith Kumarapperuma

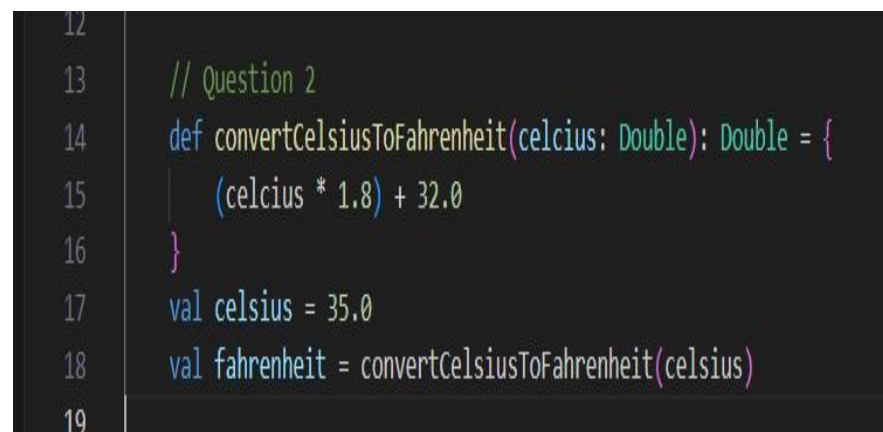
IndexNo. : 21001057

Q1)



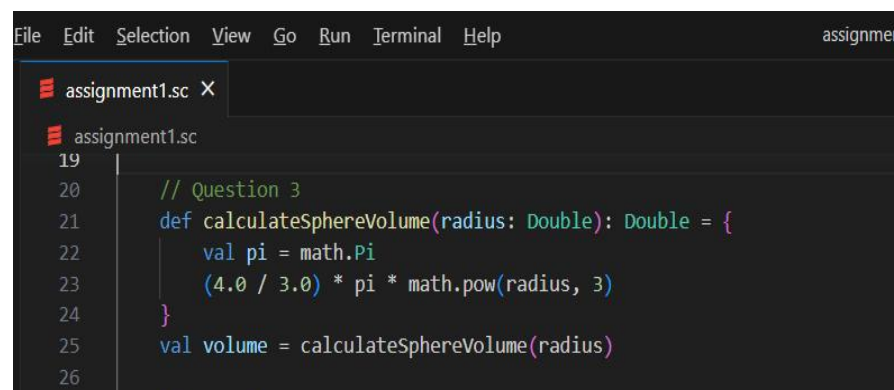
```
File Edit Selection View Go Run Terminal Help
assignment1.sc
assignment1.sc
1 // scala activity 1
2
3 object Assignment
4 {
5     // Question 1
6     def areaOfDisk(r: Double): Double = {
7         val pi = math.Pi
8         pi*r*r
9     }
10    val radius = 5.0
11    val area = areaOfDisk(radius)
12
```

Q2)



```
12
13 // Question 2
14 def convertCelsiusToFahrenheit(celsius: Double): Double = {
15     (celsius * 1.8) + 32.0
16 }
17 val celsius = 35.0
18 val fahrenheit = convertCelsiusToFahrenheit(celsius)
19
```

Q3)



```
File Edit Selection View Go Run Terminal Help
assignment1.sc
assignment1.sc
19
20 // Question 3
21 def calculateSphereVolume(radius: Double): Double = {
22     val pi = math.Pi
23     (4.0 / 3.0) * pi * math.pow(radius, 3)
24 }
25 val volume = calculateSphereVolume(radius)
26
```

Q4)

```
assignment1.sc X
assignment1.sc
19
20 // Question 3
21 def calculateSphereVolume(radius: Double): Double = {
22     val pi = math.Pi
23     (4.0 / 3.0) * pi * math.pow(radius, 3)
24 }
25 val volume = calculateSphereVolume(radius)
26
27 // Question 4
28 def calculateWholesaleCost(radius: Double): Double = {
29     val coverPrice = 24.95
30     val discount = 0.4
31     val shippingCostFirst50 = 3.0
32     val shippingCostAdditional = 0.75
33
34     val discountedPrice = coverPrice * (1 - discount)
35     val shippingCost = if (numCopies <= 50) shippingCostFirst50 else shippingCostFirst50 + (numCopies - 50) * shippingCostAdditional
36     val totalCost = discountedPrice * numCopies + shippingCost
37
38     totalCost
39 }
40 val numCopies = 60
41 val totalWholesaleCost = calculateWholesaleCost(numCopies)
42
```

Q5)

```
assignment1.sc X
assignment1.sc
43 // Question 5
44 def calculateRunningTime(easyPace: Double, tempoPace: Double, distances: List[Double]) : Double = {
45     val easyPaceTime = easyPace * distances(0)
46     val tempoTime = tempoPace * distances(1)
47     val totalTime = easyPaceTime + tempoTime + easyPaceTime
48
49     totalTime
50 }
51 val easyPace = 8.0
52 val tempoPace = 7.0
53 val distances = List(2.0, 3.0)
54 val totalRunningTime = calculateRunningTime(easyPace, tempoPace, distances)
55
```

Main func.

```
55
56 def main(args: Array[String]) : Unit =
57 {
58     printf(f"The area of disk is ${area}%2.2f\n")
59     println(s"The temperature $celsius°C is equal to $fahrenheit°F")
60     printf(f"The volume of a sphere with radius $radius is $volume%2.2f\n")
61     printf(f"The total wholesale cost for $numCopies copies is Rs. $totalWholesaleCost%2.2f\n")
62     println(s"The total running time is $totalRunningTime minutes")
63 }
64
```

Question results)

```
C:\ltp_code\scala_assignments>scalac assignment1.sc

C:\ltp_code\scala_assignments>scala Assignment
The area of disk is 78.54
The temperature 35.0°C is equal to 95.0°F
The volume of a sphere with radius 5.0 is 523.60
The total wholesale cost for 60 copies is Rs. 908.70
The total running time is 53.0 minutes
```