Scala tutorial 2

1. Consider the following variables required.

i,j,m,n,k;

f,g;

c;

2. then declare the variables in Scala and assign with the initial values as follows:

k = i = j = 2;

m = n = 5;

f = 12.0f;

g = 4.0f;

c = ‘X’;

3. and evaluate the following expressions:

a) k + 12 \* m

b) m / j

c) n % j

d) m / j \* j

e) f + 10\*5 +g

f) ++i \* n

Compare the Java and Scala programming languages.

* Use the following declaration and initialization to convert them to acceptable Scala statements.

int a = 2, b = 3, c = 4, d = 5;

float k = 4.3f;

and evaluate the following expressions

a) println( - -b \* a + c \*d - -);

b) println(a++);

c) println (–2 \* ( g – k ) +c);

d) println (c=c++);

e) println (c=++c\*a++);

4.Write Scala functions to solve the following problems.

a. Company XYZ & Co. pays all its employees Rs.250 per normal working hour and Rs. 85 per OT hour. A typical employee works 40 (normal) and 30(OT) hours per week has to pay 12% tax. Develop a functional program that determines the take home salary of an employee from the number of working hours and OT hours given.

b. Imagine the owner of a movie theater who has complete freedom in setting ticket prices. The more he charges, the fewer the people who can afford tickets. In a recent experiment the owner determined a precise relationship between the price of a ticket and average attendance. At a price of Rs 15.00 per ticket, 120 people attend a performance. Decreasing the price by 5 Rupees increases attendance by 20 and increasing the price by 5 Rupees decreases attendance by 20. Unfortunately, the increased attendance also comes at an increased cost. Every performance costs the owner Rs.500. Each attendee costs another 3 Rupees. The owner would like to know the exact relationship between profit and ticket price so that he can determine the price at which he can make the highest profit. Implement a functional program to find out the best ticket price.

expenses = amount\_per\_performance + attendance\_cost

expenses = 500 + (3 \* attendance)

income = ticket\_price \* attendance

profit = income - expenses

profit = ticket\_price \* attendance – (500 + 3 \* attendance)

profit = (ticket\_price – 3) \* attendance - 500