

## 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.