SCALA - SESSION II

Assignment

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Course: Big Data Hadoop & Spark Training

Assignment 3 –

Find square root of number using Babylonian method.

Contents

Introduction

In this assignment, we are going to write a SCALA code to find square root using Babylonian method,

Problem Statement

Find square root of number using Babylonian method.

1. 1 Start with an arbitrary positive start value x (the closer to the Root, the better).
2. Initialize y = 1.
3. Do following until desired approximation is achieved.
    a) Get the next approximation for root using average of x and y
    b) Set y = n/x

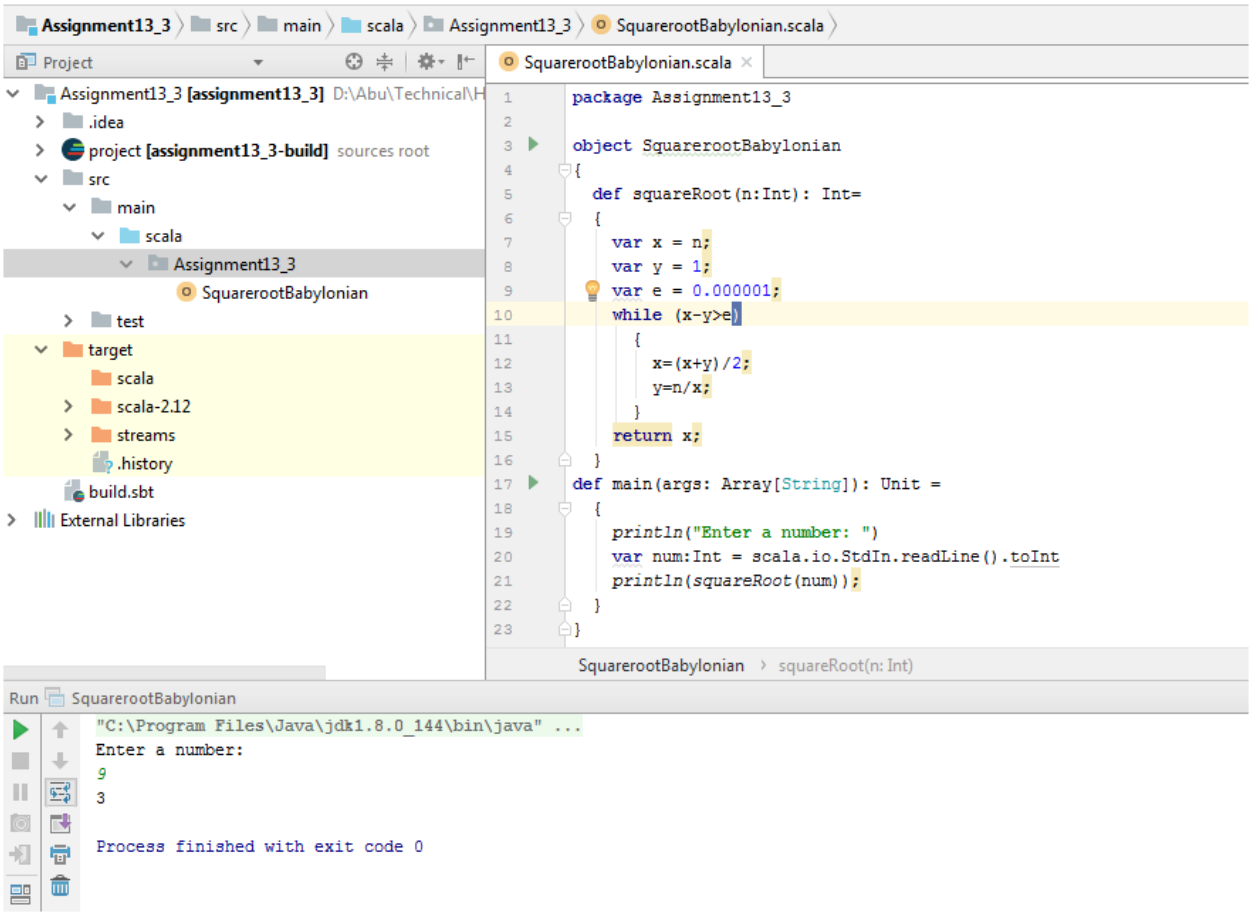
The Babylonian method for finding square roots involves dividing and averaging, over and over, to obtain a more accurate solution with each repeat of the process. Step 2: Divide your original number by your guess. Step 3: Find the average of these numbers. Step 4: Use this average as your next guess.

Task – Find square root if a number using Babylonian Method

Scala code

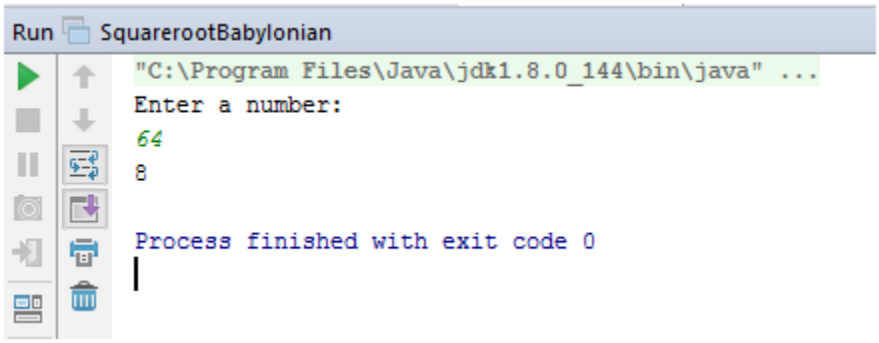
```
package Assignment13_3

object SquarerootBabylonian
{
  def squareRoot(n:Int): Int=
  {
    var x = n;
    var y = 1;
    var e = 0.000001;
    while (x-y>e)
      {
        x=(x+y)/2;
        y=n/x;
      }
    return x;
  }
def main(args: Array[String]): Unit =
  {
    println("Enter a number: ")
    var num:Int = scala.io.StdIn.readLine().toInt
    println(squareRoot(num));
  }
}
```

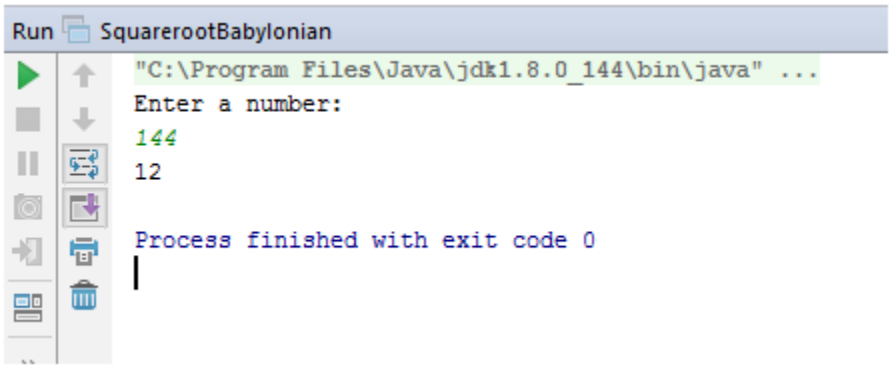
Screen Shot



Output

If we enter a number 64, the square root of that value is 8




Run
SquarerootBabylonian
"C:\Program Files\Java\jdk1.8.0_144\bin\java" ...
Enter a number:
144
12
Process finished with exit code 0