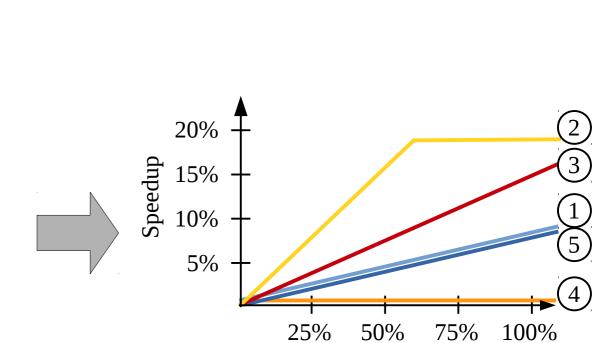
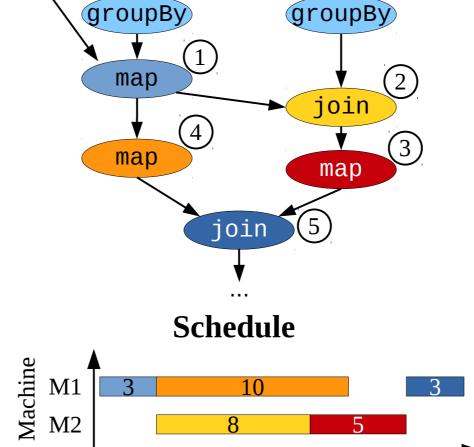
Source Code Data Flow Graph AlsApplication.scala: RDD, val als = new ALS() .setMaxIter(50) .setRegParam(0.01)groupBy .setUserCol("userId") .setItemCol("movieId") .setRatingCol("rating") map val model = als.train(trainingData) ALS.scala: map val RDD1 = loadFromHdfs(matrixA) val RDD2 = loadFromHdfs(matrixB) val input1 = RDD1.groupBy(..).map(..)val input2 = RDD2.groupBy(..)

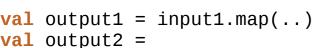
RDD₂



Causal Profile

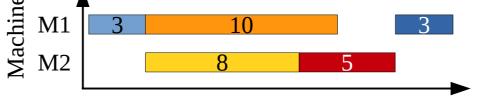
Virtual Speedup





input2.join(input1).map(..)

val result = output1.join(output2)



Time