Report for Lab Assignment 5

Questions:

Spark and Smartphone/Watch Application

Implement a smart application with big data analytics related to your project showing the collaboration between Spark and Smart Apps. Note: For the big data analytics part, you can use either SparkR or Spark MLlib.

Descriptions:

Using sparkR Mlib run k means analysis and sent notifications to watch

Screenshot:



Questions:

SparkR – Extra Credit

Install Spark and Configure SparkR. Execute Word Count and K-Means Clustering algorithms using your own data (relevant to your project) with SparkR. Write a report including your algorithms and result screenshots. Modify the K-Means SparkR implementation for K-Medoids algorithm. Reference: <https://amplab-> extras.github.io/SparkR-pkg/

sparkR code: ./sparkR kmeans.R local “Heart rate sample data.txt” 3 9

Descriptions:

By using the specific K-means.R package and run it in sparkR, I calculated the k means for sample heart rate.

Screenshot/sparkR output file:

Finished iteration (delta = 86832 )

[1] 9

There were 50 or more warnings (use warnings() to see the first 50)

Final centers:

123

61

125

55

76

73

89

137

139

101

99

84

110

90

95

55

72

114

52

54

124

53

71

108

102

104

103

79

94

51

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105

133

123

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108

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59

87

105

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[1,] 1452 4800 1728 6348 1875 2352 432 3888 4332 0 12 867

[2,] 4563 1587 5043 2523 192 363 75 8427 9075 867 675 0

[3,] 1728 4332 2028 5808 1587 2028 300 4332 4800 12 0 675

[4,] 1200 5292 1452 6912 2187 2700 588 3468 3888 12 48 1083

[5,] 972 5808 1200 7500 2523 3072 768 3072 3468 48 108 1323

[6,] 15552 300 16428 48 1875 1452 4332 22188 23232 7500 6912 3267

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[33,] 9408 3888 5043 3 972 10800 12 0 14700 3 867 8748

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[34,] 0 12 3 1587 192 7803 5547 675 27 2883

16/02/23 12:50:17 INFO SparkContext: Invoking stop() from shutdown hook

16/02/23 12:50:17 INFO SparkUI: Stopped Spark web UI at http://10.151.4.221:4040

16/02/23 12:50:17 INFO MapOutputTrackerMasterEndpoint: MapOutputTrackerMasterEndpoint stopped!

16/02/23 12:50:17 INFO MemoryStore: MemoryStore cleared

16/02/23 12:50:17 INFO BlockManager: BlockManager stopped

16/02/23 12:50:17 INFO BlockManagerMaster: BlockManagerMaster stopped

16/02/23 12:50:17 INFO OutputCommitCoordinator$OutputCommitCoordinatorEndpoint: OutputCommitCoordinator stopped!

16/02/23 12:50:17 INFO SparkContext: Successfully stopped SparkContext

16/02/23 12:50:17 INFO ShutdownHookManager: Shutdown hook called

16/02/23 12:50:17 INFO ShutdownHookManager: Deleting directory /private/var/folders/qk/1jbpq9p52n9004zj72d6bz6r0000gn/T/spark-5e8ae920-7ec5-4590-b2a6-10ca630ca1f0

weis-mbp:bin whng2$