**Name: Jeslyn Ho Ka Yan   
Date: 9 Nov 2024**

**Assignment 3, Task 2**

**// This command Starts Hbase**

bigdata@bigdata-VirtualBox:~$ $HBASE\_HOME/bin/hbase shell

SLF4J: Class path contains multiple SLF4J bindings.

SLF4J: Found binding in [jar:file:/usr/share/hbase-1.2.6/lib/slf4j-log4j12-1.7.5.jar!/org/slf4j/impl/StaticLoggerBinder.class]

SLF4J: Found binding in [jar:file:/usr/share/hadoop-2.7.3/share/hadoop/common/lib/slf4j-log4j12-1.7.10.jar!/org/slf4j/impl/StaticLoggerBinder.class]

SLF4J: See http://www.slf4j.org/codes.html#multiple\_bindings for an explanation.

SLF4J: Actual binding is of type [org.slf4j.impl.Log4jLoggerFactory]

HBase Shell; enter 'help<RETURN>' for list of supported commands.

Type "exit<RETURN>" to leave the HBase Shell

Version 1.2.6, rUnknown, Mon May 29 02:25:32 CDT 2017

**// This command runs the HBase shell script solution2.hb, located at /home/bigdata/ISIT312/A3/, which executes all the HBase commands specified in the script.**

hbase(main):001:0> source ('/home/bigdata/ISIT312/A3/solution2.hb')

solution2.hb(main):002:0> # Name: Jeslyn ho

solution2.hb(main):003:0\* # SIM ID:10241485

solution2.hb(main):004:0\* # Assingment 3 Task 2

solution2.hb(main):005:0\* #

solution2.hb(main):006:0\*

solution2.hb(main):007:0\* #Query 1:

solution2.hb(main):008:0\* # Retrieve all available information for the product with product number 101, listing each version in a separate cell.

solution2.hb(main):009:0\* get 'task2', 'product101', {COLUMN => 'PRODUCT', VERSIONS => 4}

COLUMN CELL

0 row(s) in 0.6790 seconds

solution2.hb(main):010:0>

solution2.hb(main):011:0\* #Query 2:

solution2.hb(main):012:0\* # Retrieve all available information about sales of product 101 made by customer 007, listing each version in a separate cell.

solution2.hb(main):013:0\* scan 'task2', {FILTER => "PrefixFilter('sale101-customer007')", VERSIONS => 4}

ROW COLUMN+CELL

0 row(s) in 0.0680 seconds

solution2.hb(main):014:0>

solution2.hb(main):015:0\*

solution2.hb(main):016:0\* #Query 3:

solution2.hb(main):017:0\* # Retrieve the name, location (address), and age group of all customers, listing each customer in a separate cell.

solution2.hb(main):018:0\* scan 'task2', {COLUMNS => ['CUSTOMER:customerName', 'CUSTOMER:location', 'CUSTOMER:ageGroup']}

ROW COLUMN+CELL

customer|007 column=CUSTOMER:ageGroup, timestamp=1731231590179, value=15 - 64

customer|007 column=CUSTOMER:customerName, timestamp=1731231590164, value=James Bond

customer|007 column=CUSTOMER:location, timestamp=1731231590172, value=England

customer|666 column=CUSTOMER:ageGroup, timestamp=1731231590208, value=<15

customer|666 column=CUSTOMER:customerName, timestamp=1731231590193, value=Harry Potter

customer|666 column=CUSTOMER:location, timestamp=1731231590200, value=England

customer|888 column=CUSTOMER:ageGroup, timestamp=1731231590239, value=>64

customer|888 column=CUSTOMER:customerName, timestamp=1731231590216, value=Wukong

customer|888 column=CUSTOMER:location, timestamp=1731231590221, value=China

3 row(s) in 0.0940 seconds

solution2.hb(main):019:0>

solution2.hb(main):020:0\*

solution2.hb(main):021:0\* #Query 4:

solution2.hb(main):022:0\* # Retrieve all information about products under the brand ‘Samsung’, listing each product in a separate cell.

solution2.hb(main):023:0\* scan 'task2', {FILTER => "SingleColumnValueFilter('PRODUCT', 'brand', =, 'binary:SAMSUNG')"}

ROW COLUMN+CELL

customer|007 column=CUSTOMER:ageGroup, timestamp=1731231590179, value=15 - 64

customer|007 column=CUSTOMER:customerId, timestamp=1731231590139, value=007

customer|007 column=CUSTOMER:customerName, timestamp=1731231590164, value=James Bond

customer|007 column=CUSTOMER:location, timestamp=1731231590172, value=England

customer|666 column=CUSTOMER:ageGroup, timestamp=1731231590208, value=<15

customer|666 column=CUSTOMER:customerId, timestamp=1731231590184, value=666

customer|666 column=CUSTOMER:customerName, timestamp=1731231590193, value=Harry Potter

customer|666 column=CUSTOMER:location, timestamp=1731231590200, value=England

customer|888 column=CUSTOMER:ageGroup, timestamp=1731231590239, value=>64

customer|888 column=CUSTOMER:customerId, timestamp=1731231590212, value=888

customer|888 column=CUSTOMER:customerName, timestamp=1731231590216, value=Wukong

customer|888 column=CUSTOMER:location, timestamp=1731231590221, value=China

date|20240110 column=DATE:day, timestamp=1731231590412, value=10

date|20240110 column=DATE:dayOfWeek, timestamp=1731231590420, value=Wednesday

date|20240110 column=DATE:month, timestamp=1731231590408, value=01

date|20240110 column=DATE:quarter, timestamp=1731231590416, value=01

date|20240110 column=DATE:year, timestamp=1731231590403, value=2024

date|20240128 column=DATE:day, timestamp=1731231590435, value=28

date|20240128 column=DATE:dayOfWeek, timestamp=1731231590497, value=Sunday

date|20240128 column=DATE:month, timestamp=1731231590431, value=01

date|20240128 column=DATE:quarter, timestamp=1731231590446, value=01

date|20240128 column=DATE:year, timestamp=1731231590425, value=2024

date|20240130 column=DATE:day, timestamp=1731231590558, value=30

date|20240130 column=DATE:dayOfWeek, timestamp=1731231590567, value=Tuesday

date|20240130 column=DATE:month, timestamp=1731231590523, value=01

date|20240130 column=DATE:quarter, timestamp=1731231590563, value=01

date|20240130 column=DATE:year, timestamp=1731231590512, value=2024

date|20240206 column=DATE:day, timestamp=1731231590576, value=06

date|20240206 column=DATE:dayOfWeek, timestamp=1731231590583, value=Tuesday

date|20240206 column=DATE:month, timestamp=1731231590573, value=02

date|20240206 column=DATE:quarter, timestamp=1731231590580, value=01

date|20240206 column=DATE:year, timestamp=1731231590570, value=2024

date|20240217 column=DATE:day, timestamp=1731231590592, value=17

date|20240217 column=DATE:dayOfWeek, timestamp=1731231590598, value=Saturday

date|20240217 column=DATE:month, timestamp=1731231590589, value=02

date|20240217 column=DATE:quarter, timestamp=1731231590595, value=01

date|20240217 column=DATE:year, timestamp=1731231590587, value=2024

date|20240222 column=DATE:day, timestamp=1731231590614, value=22

date|20240222 column=DATE:dayOfWeek, timestamp=1731231590627, value=Thursday

date|20240222 column=DATE:month, timestamp=1731231590610, value=02

date|20240222 column=DATE:quarter, timestamp=1731231590622, value=01

date|20240222 column=DATE:year, timestamp=1731231590606, value=2024

date|20240304 column=DATE:day, timestamp=1731231590643, value=04

date|20240304 column=DATE:dayOfWeek, timestamp=1731231590654, value=Wednesday

date|20240304 column=DATE:month, timestamp=1731231590638, value=03

date|20240304 column=DATE:quarter, timestamp=1731231590649, value=01

date|20240304 column=DATE:year, timestamp=1731231590632, value=2024

date|20240306 column=DATE:day, timestamp=1731231590664, value=06

date|20240306 column=DATE:dayOfWeek, timestamp=1731231590674, value=Wednesday

date|20240306 column=DATE:month, timestamp=1731231590661, value=03

date|20240306 column=DATE:quarter, timestamp=1731231590669, value=01

date|20240306 column=DATE:year, timestamp=1731231590657, value=2024

date|20240330 column=DATE:day, timestamp=1731231590687, value=30

date|20240330 column=DATE:dayOfWeek, timestamp=1731231590697, value=Saturday

date|20240330 column=DATE:month, timestamp=1731231590683, value=03

date|20240330 column=DATE:quarter, timestamp=1731231590692, value=01

date|20240330 column=DATE:year, timestamp=1731231590679, value=2024

date|20240416 column=DATE:day, timestamp=1731231590709, value=16

date|20240416 column=DATE:dayOfWeek, timestamp=1731231590720, value=Tuesday

date|20240416 column=DATE:month, timestamp=1731231590705, value=04

date|20240416 column=DATE:quarter, timestamp=1731231590715, value=01

date|20240416 column=DATE:year, timestamp=1731231590701, value=2024

date|20240427 column=DATE:day, timestamp=1731231590733, value=27

date|20240427 column=DATE:dayOfWeek, timestamp=1731231590745, value=Saturday

date|20240427 column=DATE:month, timestamp=1731231590728, value=04

date|20240427 column=DATE:quarter, timestamp=1731231590737, value=01

date|20240427 column=DATE:year, timestamp=1731231590724, value=2024

date|20240428 column=DATE:day, timestamp=1731231590764, value=28

date|20240428 column=DATE:dayOfWeek, timestamp=1731231590776, value=Sunday

date|20240428 column=DATE:month, timestamp=1731231590759, value=04

date|20240428 column=DATE:quarter, timestamp=1731231590771, value=01

date|20240428 column=DATE:year, timestamp=1731231590754, value=2024

sale001 column=SALES-TRX:quantitySold, timestamp=1731232342281, value=10

sale001 column=SALES-TRX:seller, timestamp=1731232342267, value=seller1

sale001 column=SALES-TRX:totalSales, timestamp=1731232342293, value=200

sale002 column=SALES-TRX:quantitySold, timestamp=1731232342341, value=5

sale002 column=SALES-TRX:seller, timestamp=1731232342328, value=seller2

sale002 column=SALES-TRX:totalSales, timestamp=1731232342359, value=150

salestrx|007:101:30012024 column=CUSTOMER:customerId, timestamp=1731231590839, value=007

salestrx|007:101:30012024 column=DATE:sDay, timestamp=1731231590833, value=30

salestrx|007:101:30012024 column=DATE:sMonth, timestamp=1731231590829, value=01

salestrx|007:101:30012024 column=DATE:sYear, timestamp=1731231590824, value=2024

salestrx|007:101:30012024 column=PRODUCT:productId, timestamp=1731231590845, value=101

salestrx|007:101:30012024 column=SALES-TRX:discount, timestamp=1731231590858, value=0.2

salestrx|007:101:30012024 column=SALES-TRX:quantitySold, timestamp=1731231590849, value=2

salestrx|007:101:30012024 column=SALES-TRX:salesId, timestamp=1731231590820, value=20240102

salestrx|007:101:30012024 column=SALES-TRX:totalSale, timestamp=1731231590853, value=238

salestrx|007:202:28012024 column=CUSTOMER:customerId, timestamp=1731231590795, value=007

salestrx|007:202:28012024 column=DATE:sDay, timestamp=1731231590791, value=28

salestrx|007:202:28012024 column=DATE:sMonth, timestamp=1731231590787, value=01

salestrx|007:202:28012024 column=DATE:sYear, timestamp=1731231590784, value=2024

salestrx|007:202:28012024 column=PRODUCT:productId, timestamp=1731231590799, value=202

salestrx|007:202:28012024 column=SALES-TRX:discount, timestamp=1731231590816, value=0.1

salestrx|007:202:28012024 column=SALES-TRX:quantitySold, timestamp=1731231590802, value=1

salestrx|007:202:28012024 column=SALES-TRX:salesId, timestamp=1731231590780, value=20240101

salestrx|007:202:28012024 column=SALES-TRX:totalSale, timestamp=1731231590811, value=2100

salestrx|666:102:22022024 column=CUSTOMER:customerId, timestamp=1731231590938, value=666

salestrx|666:102:22022024 column=DATE:sDay, timestamp=1731231590935, value=22

salestrx|666:102:22022024 column=DATE:sMonth, timestamp=1731231590931, value=02

salestrx|666:102:22022024 column=DATE:sYear, timestamp=1731231590927, value=2024

salestrx|666:102:22022024 column=PRODUCT:productId, timestamp=1731231590943, value=102

salestrx|666:102:22022024 column=SALES-TRX:discount, timestamp=1731231590966, value=0.2

salestrx|666:102:22022024 column=SALES-TRX:quantitySold, timestamp=1731231590947, value=1

salestrx|666:102:22022024 column=SALES-TRX:salesId, timestamp=1731231590923, value=20240201

salestrx|666:102:22022024 column=SALES-TRX:totalSale, timestamp=1731231590951, value=1600

salestrx|888:302:06032024 column=CUSTOMER:customerId, timestamp=1731231590897, value=888

salestrx|888:302:06032024 column=DATE:sDay, timestamp=1731231590893, value=06

salestrx|888:302:06032024 column=DATE:sMonth, timestamp=1731231590885, value=03

salestrx|888:302:06032024 column=DATE:sYear, timestamp=1731231590872, value=2024

salestrx|888:302:06032024 column=PRODUCT:productId, timestamp=1731231590902, value=302

salestrx|888:302:06032024 column=SALES-TRX:discount, timestamp=1731231590918, value=0.3

salestrx|888:302:06032024 column=SALES-TRX:quantitySold, timestamp=1731231590908, value=2

salestrx|888:302:06032024 column=SALES-TRX:salesId, timestamp=1731231590868, value=20240301

salestrx|888:302:06032024 column=SALES-TRX:totalSale, timestamp=1731231590912, value=800

salestrx|888:303:28042024 column=CUSTOMER:customerId, timestamp=1731231590984, value=888

salestrx|888:303:28042024 column=DATE:sDay, timestamp=1731231590980, value=28

salestrx|888:303:28042024 column=DATE:sMonth, timestamp=1731231590977, value=04

salestrx|888:303:28042024 column=DATE:sYear, timestamp=1731231590974, value=2024

salestrx|888:303:28042024 column=PRODUCT:productId, timestamp=1731231590988, value=303

salestrx|888:303:28042024 column=SALES-TRX:discount, timestamp=1731231591002, value=0.4

salestrx|888:303:28042024 column=SALES-TRX:quantitySold, timestamp=1731231590992, value=5

salestrx|888:303:28042024 column=SALES-TRX:salesId, timestamp=1731231590970, value=20240401

salestrx|888:303:28042024 column=SALES-TRX:totalSale, timestamp=1731231590996, value=500

seller1 column=SELLER:address, timestamp=1731232342055, value=123 Seller St

seller1 column=SELLER:contact, timestamp=1731232342086, value=John Doe

seller1 column=SELLER:name, timestamp=1731232342046, value=Seller A

seller2 column=SELLER:address, timestamp=1731232342131, value=456 Market Rd

seller2 column=SELLER:contact, timestamp=1731232342143, value=Jane Smith

seller2 column=SELLER:name, timestamp=1731232342119, value=Seller Two

24 row(s) in 0.4090 seconds

solution2.hb(main):024:0>

solution2.hb(main):025:0\*

solution2.hb(main):026:0\* #Task 1: Add a new column family named SELLER that will store seller information (name, address, and contact person) and insert data for at least two sellers.

solution2.hb(main):027:0\* alter 'task2', NAME => 'SELLER'

Updating all regions with the new schema...

0/1 regions updated.

1/1 regions updated.

Done.

0 row(s) in 3.0790 seconds

solution2.hb(main):028:0> put 'task2', 'seller1', 'SELLER:name', 'Seller A'

0 row(s) in 0.1530 seconds

solution2.hb(main):029:0> put 'task2', 'seller1', 'SELLER:address', '123 Seller St'

0 row(s) in 0.0120 seconds

solution2.hb(main):030:0> put 'task2', 'seller1', 'SELLER:contact', 'John Doe'

0 row(s) in 0.0070 seconds

solution2.hb(main):031:0> put 'task2', 'seller2', 'SELLER:name', 'Seller Two'

0 row(s) in 0.0220 seconds

solution2.hb(main):032:0> put 'task2', 'seller2', 'SELLER:address', '456 Market Rd'

0 row(s) in 0.0260 seconds

solution2.hb(main):033:0> put 'task2', 'seller2', 'SELLER:contact', 'Jane Smith'

0 row(s) in 0.0250 seconds

solution2.hb(main):034:0>

solution2.hb(main):035:0\* # Task 1 - Scan to verify seller information

solution2.hb(main):036:0\* scan 'task2', {COLUMNS => ['SELLER']}

ROW COLUMN+CELL

seller1 column=SELLER:address, timestamp=1731232409017, value=123 Seller St

seller1 column=SELLER:contact, timestamp=1731232409040, value=John Doe

seller1 column=SELLER:name, timestamp=1731232408975, value=Seller A

seller2 column=SELLER:address, timestamp=1731232409168, value=456 Market Rd

seller2 column=SELLER:contact, timestamp=1731232409185, value=Jane Smith

seller2 column=SELLER:name, timestamp=1731232409135, value=Seller Two

2 row(s) in 0.0830 seconds

solution2.hb(main):037:0>

solution2.hb(main):038:0\*

solution2.hb(main):039:0\* #Task 2: Add information for two sales transactions, each by a different seller, with reasonable values.

solution2.hb(main):040:0\* put 'task2', 'sale001', 'SALES-TRX:seller', 'seller1'

0 row(s) in 0.0520 seconds

solution2.hb(main):041:0> put 'task2', 'sale001', 'SALES-TRX:quantitySold', '10'

0 row(s) in 0.0080 seconds

solution2.hb(main):042:0> put 'task2', 'sale001', 'SALES-TRX:totalSales', '200'

0 row(s) in 0.0160 seconds

solution2.hb(main):043:0>

solution2.hb(main):044:0\* put 'task2', 'sale002', 'SALES-TRX:seller', 'seller2'

0 row(s) in 0.0120 seconds

solution2.hb(main):045:0> put 'task2', 'sale002', 'SALES-TRX:quantitySold', '5'

0 row(s) in 0.0100 seconds

solution2.hb(main):046:0> put 'task2', 'sale002', 'SALES-TRX:totalSales', '150'

0 row(s) in 0.0050 seconds

solution2.hb(main):047:0>

solution2.hb(main):048:0\* # Task 2 - Scan to verify sales transaction data

solution2.hb(main):049:0\* scan 'task2', {FILTER => "PrefixFilter('sale')", COLUMNS => ['SALES-TRX']}

ROW COLUMN+CELL

sale001 column=SALES-TRX:quantitySold, timestamp=1731232409389, value=10

sale001 column=SALES-TRX:seller, timestamp=1731232409350, value=seller1

sale001 column=SALES-TRX:totalSales, timestamp=1731232409401, value=200

sale002 column=SALES-TRX:quantitySold, timestamp=1731232409464, value=5

sale002 column=SALES-TRX:seller, timestamp=1731232409424, value=seller2

sale002 column=SALES-TRX:totalSales, timestamp=1731232409480, value=150

salestrx|007:101:30012024 column=SALES-TRX:discount, timestamp=1731231590858, value=0.2

salestrx|007:101:30012024 column=SALES-TRX:quantitySold, timestamp=1731231590849, value=2

salestrx|007:101:30012024 column=SALES-TRX:salesId, timestamp=1731231590820, value=20240102

salestrx|007:101:30012024 column=SALES-TRX:totalSale, timestamp=1731231590853, value=238

salestrx|007:202:28012024 column=SALES-TRX:discount, timestamp=1731231590816, value=0.1

salestrx|007:202:28012024 column=SALES-TRX:quantitySold, timestamp=1731231590802, value=1

salestrx|007:202:28012024 column=SALES-TRX:salesId, timestamp=1731231590780, value=20240101

salestrx|007:202:28012024 column=SALES-TRX:totalSale, timestamp=1731231590811, value=2100

salestrx|666:102:22022024 column=SALES-TRX:discount, timestamp=1731231590966, value=0.2

salestrx|666:102:22022024 column=SALES-TRX:quantitySold, timestamp=1731231590947, value=1

salestrx|666:102:22022024 column=SALES-TRX:salesId, timestamp=1731231590923, value=20240201

salestrx|666:102:22022024 column=SALES-TRX:totalSale, timestamp=1731231590951, value=1600

salestrx|888:302:06032024 column=SALES-TRX:discount, timestamp=1731231590918, value=0.3

salestrx|888:302:06032024 column=SALES-TRX:quantitySold, timestamp=1731231590908, value=2

salestrx|888:302:06032024 column=SALES-TRX:salesId, timestamp=1731231590868, value=20240301

salestrx|888:302:06032024 column=SALES-TRX:totalSale, timestamp=1731231590912, value=800

salestrx|888:303:28042024 column=SALES-TRX:discount, timestamp=1731231591002, value=0.4

salestrx|888:303:28042024 column=SALES-TRX:quantitySold, timestamp=1731231590992, value=5

salestrx|888:303:28042024 column=SALES-TRX:salesId, timestamp=1731231590970, value=20240401

salestrx|888:303:28042024 column=SALES-TRX:totalSale, timestamp=1731231590996, value=500

7 row(s) in 0.0550 seconds

solution2.hb(main):050:0>

solution2.hb(main):051:0\*

solution2.hb(main):052:0\* #Task 3: Increase the total number of versions in each cell of the PRODUCT column family to 4.

solution2.hb(main):053:0\* alter 'task2', {NAME => 'PRODUCT', VERSIONS => 4}

Updating all regions with the new schema...

0/1 regions updated.

1/1 regions updated.

Done.

0 row(s) in 3.4560 seconds