cind110\_Assignment\_02

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## R Markdown

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When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document.

This assignment makes use of data provided in Assignment\_01

# Setting the working diectory and the connection to MYSQL Server

#setwd("/Google Drive/Winter2018/CIND110")  
#getwd()  
#install.packages('RMySQL', dependencies = TRUE)  
library(RMySQL)

## Loading required package: DBI

sqlQuery <- function (query) {  
  
 # creating DB connection object with RMysql package  
 DB <- dbConnect(MySQL(), user='root', password='data', dbname='gm\_eclipse',  
 host='127.0.0.1')  
  
 # send Query to btain result set  
 rs <- dbSendQuery(DB, query)  
  
 # get elements from result sets and convert to dataframe  
 result <- fetch(rs, -1)  
  
 # close db connection  
 dbDisconnect(DB)  
  
 # return the dataframe  
 return(result)  
}

# Example 1

Query the total number of changes where state is ABANDONED.

sqlQuery("SELECT COUNT(\*), ch\_status FROM t\_change where ch\_status='ABANDONED';")

## Warning: Closing open result sets

## COUNT(\*) ch\_status  
## 1 2297 ABANDONED

# Example 2

Query all the RECENT reviews which has ‘Code-Review-2’ string; which essentially means that the code(patch) was rejected. List ID and time created, and limit the query output by 20 records.

sqlQuery("SELECT hist\_id, hist\_createdTime FROM t\_history   
WHERE hist\_message LIKE '%Code-Review-2%'   
ORDER BY hist\_createdTime DESC limit 20;")

## Warning: Closing open result sets

## hist\_id hist\_createdTime  
## 1 a7c23755\_bedb3d9a 2016-11-17 02:53:17  
## 2 a7c23755\_fbb7873e 2016-11-16 17:27:15  
## 3 a7c23755\_dbb2cb50 2016-11-16 17:26:22  
## 4 a7c23755\_b760c52a 2016-11-15 21:25:32  
## 5 a7c23755\_777f0dd4 2016-11-15 21:06:25  
## 6 a7c23755\_17cc19df 2016-11-15 20:50:37  
## 7 a7c23755\_d718e105 2016-11-15 20:30:24  
## 8 a7c23755\_f7f6bdc9 2016-11-15 17:35:54  
## 9 a7c23755\_4144131e 2016-11-15 08:42:51  
## 10 a7c23755\_26a56dff 2016-11-15 01:55:58  
## 11 a7c23755\_86a721c4 2016-11-14 21:22:37  
## 12 a7c23755\_f0016b79 2016-11-14 12:21:39  
## 13 a7c23755\_66dbf09b 2016-11-09 20:32:34  
## 14 a7c23755\_4f036e4c 2016-11-08 14:16:49  
## 15 a7c23755\_2fe39212 2016-11-08 14:16:36  
## 16 a7c23755\_efe8baf1 2016-11-08 14:16:12  
## 17 a7c23755\_3a411963 2016-11-04 10:22:20  
## 18 07b223f6\_f8645fc5 2016-11-03 04:21:32  
## 19 07b223f6\_f57aaa2d 2016-11-02 18:49:29  
## 20 07b223f6\_11cd7360 2016-11-02 13:27:09

# Example 3

Find the total lines of code that has been inserted to ‘SystemClock.java’ file across all revisons.

sqlQuery("select f\_fileName,sum(f\_linesInserted) as InsLOC from t\_file   
WHERE f\_fileName LIKE '%/SystemClock.java%'  
Group by f\_fileName;")

## Warning in .local(conn, statement, ...): Decimal MySQL column 1 imported as  
## numeric

## Warning: Closing open result sets

## f\_fileName InsLOC  
## 1 org.eclipse.jgit/src/org/eclipse/jgit/util/time/SystemClock.java 430

# Q1

For each file in the database, find the total Lines of code that has been deleted during the second revision

sqlQuery("SELECT f\_fileName File\_Name, f\_linesDeleted Lines\_Deleted FROM t\_file WHERE f\_revisionId = 2;")

## Warning: Closing open result sets

## File\_Name  
## 1 org.eclipse.jgit/resources/org/eclipse/jgit/internal/JGitText.properties  
## 2 org.eclipse.jgit/src/org/eclipse/jgit/internal/ketch/ProposalRound.java  
## 3 org.eclipse.jgit/src/org/eclipse/jgit/util/time/Clock.java  
## 4 org.eclipse.jgit.junit/META-INF/MANIFEST.MF  
## 5 org.eclipse.jgit.junit/src/org/eclipse/jgit/junit/LocalDiskRepositoryTestCase.java  
## 6 org.eclipse.jgit/src/org/eclipse/jgit/internal/JGitText.java  
## 7 org.eclipse.jgit/src/org/eclipse/jgit/internal/ketch/ElectionRound.java  
## 8 org.eclipse.jgit/src/org/eclipse/jgit/util/time/ProposedTimestamp.java  
## 9 org.eclipse.jgit/src/org/eclipse/jgit/internal/ketch/KetchSystem.java  
## 10 org.eclipse.jgit/src/org/eclipse/jgit/util/time/SystemClock.java  
## 11 org.eclipse.jgit/src/org/eclipse/jgit/internal/ketch/LocalReplica.java  
## 12 org.eclipse.jgit.junit/src/org/eclipse/jgit/junit/time/FakeClock.java  
## 13 org.eclipse.jgit/src/org/eclipse/jgit/lib/PersonIdent.java  
## 14 org.eclipse.jgit/META-INF/MANIFEST.MF  
## 15 org.eclipse.jgit/src/org/eclipse/jgit/util/SystemReader.java  
## 16 org.eclipse.jgit.junit/src/org/eclipse/jgit/junit/MockSystemReader.java  
## 17 org.eclipse.jgit/src/org/eclipse/jgit/lib/BatchRefUpdate.java  
## Lines\_Deleted  
## 1 0  
## 2 7  
## 3 0  
## 4 1  
## 5 5  
## 6 0  
## 7 4  
## 8 0  
## 9 12  
## 10 0  
## 11 5  
## 12 0  
## 13 6  
## 14 5  
## 15 0  
## 16 0  
## 17 0

# Q2

Display the most frequently updated files that have been modified at least 200 times.

sqlQuery("SELECT f\_fileName File\_Name, COUNT(\*) Number\_of\_Modifications FROM t\_file GROUP BY f\_fileName HAVING COUNT(f\_fileName) >= 200 ORDER BY Number\_of\_Modifications DESC")

## Warning: Closing open result sets

## File\_Name  
## 1 pom.xml  
## 2 org.eclipse.egit.ui/src/org/eclipse/egit/ui/uitext.properties  
## 3 org.eclipse.egit.ui/src/org/eclipse/egit/ui/UIText.java  
## 4 org.eclipse.egit.ui/plugin.xml  
## 5 releng/pom.xml  
## 6 plugins/org.eclipse.sirius/src/org/eclipse/sirius/business/internal/session/danalysis/DAnalysisSessionImpl.java  
## 7 org.eclipse.egit.ui/plugin.properties  
## Number\_of\_Modifications  
## 1 1227  
## 2 428  
## 3 375  
## 4 341  
## 5 253  
## 6 213  
## 7 212

# Q3

Display the total number of history messages, that have been provided by a reviewer with Author Account ID equals to “442”?.

sqlQuery("SELECT count(hist\_message) Messages\_of\_ID\_442 FROM t\_history WHERE hist\_authorAccountId = 442;")

## Warning: Closing open result sets

## Messages\_of\_ID\_442  
## 1 65777

# Q4

Display the information of the most active reviewers who provided more than 1000 comments (i.e. history messeges). List the name, account-ID and the total number of comments.

sqlQuery("SELECT p\_name Name, hist\_authorAccountId Account\_ID, count(\*) Total\_Comments FROM t\_people, t\_history WHERE hist\_authorAccountId = p\_accountId GROUP BY hist\_authorAccountId, p\_name HAVING count(\*) > 1000 ORDER BY Total\_Comments DESC;")

## Warning: Closing open result sets

## Name Account\_ID Total\_Comments  
## 1 Hudson CI 442 65777  
## 2 Matthias Sohn 4 3541  
## 3 Lars Vogel 1093 2773  
## 4 Matthew Khouzam 763 1916  
## 5 Alexandre Montplaisir 722 1694  
## 6 Hudson CI 107 1658  
## 7 Marc-Andr\xe9 Laperle 598 1557  
## 8 Donald Dunne 906 1320  
## 9 Shawn Pearce 1 1305  
## 10 Alexander Kurtakov 726 1211  
## 11 Andreas Sewe 857 1138  
## 12 Patrick Tasse 529 1081  
## 13 Maxime Porhel 1472 1049  
## 14 Pierre-Charles David 1408 1041

# Q5

Display the most recent 20 changes with status “MERGED”" in descending order. List ChangeIdNum, Project, Branch , and CreatedTime

sqlQuery("SELECT ch\_changeIdNum Change\_ID\_Number, ch\_project Project, ch\_branch Branch, ch\_createdTime Created\_Time FROM t\_change WHERE ch\_status = 'MERGED' ORDER BY ch\_updatedTime DESC LIMIT 20;")

## Warning: Closing open result sets

## Change\_ID\_Number Project  
## 1 85090 platform/eclipse.platform.text  
## 2 85192 cbi/org.eclipse.cbi.p2repo.aggregator  
## 3 85188 cbi/org.eclipse.cbi.p2repo.aggregator  
## 4 85179 cbi/org.eclipse.cbi.p2repo.aggregator  
## 5 85180 jgit/jgit  
## 6 77604 jgit/jgit  
## 7 85177 platform/eclipse.platform.resources  
## 8 84785 orion/org.eclipse.orion.client  
## 9 83545 tracecompass/org.eclipse.tracecompass  
## 10 84838 tracecompass/org.eclipse.tracecompass  
## 11 85174 simrel/org.eclipse.simrel.build  
## 12 85173 simrel/org.eclipse.simrel.build  
## 13 85157 viatra/org.eclipse.viatra  
## 14 85169 papyrus/org.eclipse.papyrus  
## 15 85168 simrel/org.eclipse.simrel.build  
## 16 85167 simrel/org.eclipse.simrel.build  
## 17 85164 papyrus-rt/org.eclipse.papyrus-rt  
## 18 85166 simrel/org.eclipse.simrel.build  
## 19 84040 mylyn/org.eclipse.mylyn.docs  
## 20 85103 cdt/org.eclipse.cdt  
## Branch Created\_Time  
## 1 master 2016-11-15 20:51:26  
## 2 master 2016-11-17 03:34:54  
## 3 master 2016-11-17 01:35:22  
## 4 master 2016-11-16 23:25:45  
## 5 master 2016-11-16 23:28:15  
## 6 master 2016-07-20 14:20:35  
## 7 master 2016-11-16 22:42:18  
## 8 master 2016-11-10 10:10:47  
## 9 master 2016-10-19 17:09:00  
## 10 master 2016-11-10 20:39:11  
## 11 master 2016-11-16 21:10:17  
## 12 Neon\_maintenance 2016-11-16 21:04:17  
## 13 master 2016-11-16 16:29:02  
## 14 committers/vlorenzo/oxygen/496176-import-rpy 2016-11-16 19:47:04  
## 15 Neon\_maintenance 2016-11-16 19:04:27  
## 16 Neon\_maintenance 2016-11-16 18:57:53  
## 17 master 2016-11-16 17:40:45  
## 18 Neon\_maintenance 2016-11-16 18:31:43  
## 19 master 2016-10-27 17:23:30  
## 20 master 2016-11-16 01:50:21

# Q6

Display the names of the top 10 users who have submitted the maximum number of revision-messages in one revision-change.

sqlQuery("SELECT rev\_changeId Change\_ID, rev\_authorUsername Name, count(\*) Message\_Count\_Per\_Change FROM t\_revision GROUP BY rev\_changeId, rev\_authorUsername ORDER BY Message\_Count\_Per\_Change DESC LIMIT 10;")

## Warning: Closing open result sets

## Change\_ID Name Message\_Count\_Per\_Change  
## 1 11455 Marcel Bruch 31  
## 2 7259 Francois Le Fevre - CEA 31  
## 3 6283 Pawel Nowak 30  
## 4 8634 Frank Becker 30  
## 5 10492 Robin Rosenberg 30  
## 6 6469 Wim Jongman 29  
## 7 2646 C\xe9line Janssens 28  
## 8 4028 Eric Poirier 27  
## 9 13970 Onder GURCAN 26  
## 10 5244 Matthew Khouzam 25

# Q7

Display the status, id, and the comment-message of a change whose reviewer created the message during November 2016; limit by 10.

sqlQuery("SELECT ch\_status Status, ch\_changeIdNum Change\_ID, hist\_message Comment\_Message FROM t\_change, t\_history WHERE ch\_changeIdNum = hist\_changeId AND hist\_createdTime LIKE '2016-11%' LIMIT 10;")

## Warning: Closing open result sets

## Status Change\_ID  
## 1 MERGED 13679  
## 2 MERGED 13679  
## 3 MERGED 13679  
## 4 MERGED 13679  
## 5 MERGED 13601  
## 6 MERGED 13601  
## 7 MERGED 13601  
## 8 MERGED 13601  
## 9 MERGED 13601  
## 10 MERGED 13601  
## Comment\_Message  
## 1 Uploaded patch set 1.  
## 2 Patch Set 1:\n\nBuild Started https://hudson.eclipse.org/scout/job/org.eclipse.scout.rt\_5\_2\_and\_higher\_gerrit/1209/  
## 3 Patch Set 1: Verified+1\n\nBuild Successful \n\nhttps://hudson.eclipse.org/scout/job/org.eclipse.scout.rt\_5\_2\_and\_higher\_gerrit/1209/ : SUCCESS  
## 4 Abandoned  
## 5 Uploaded patch set 1.  
## 6 Patch Set 1:\n\nBuild Started https://hudson.eclipse.org/packaging/job/epp-logging.gerrit/829/  
## 7 Uploaded patch set 2: Commit message was updated.  
## 8 Patch Set 1: Verified+1\n\nBuild Successful \n\nhttps://hudson.eclipse.org/packaging/job/epp-logging.gerrit/829/ : SUCCESS  
## 9 Patch Set 2:\n\nBuild Started https://hudson.eclipse.org/packaging/job/epp-logging.gerrit/830/  
## 10 Patch Set 2: Verified+1\n\nBuild Successful \n\nhttps://hudson.eclipse.org/packaging/job/epp-logging.gerrit/830/ : SUCCESS

# Q8

List the id number and the status of all merge-able changes committed by ‘Shawn Pearce’;

sqlQuery("SELECT ch\_changeIdNum Change\_ID, ch\_status Status FROM t\_change, t\_people WHERE p\_name = 'Shawn Pearce' AND ch\_mergeable = 1 AND ch\_authorAccountID = p\_accountId;")

## Warning: Closing open result sets

## Change\_ID Status  
## 1 85105 ABANDONED  
## 2 391 ABANDONED

# Q9

List the id number from t\_file where there are more than 3000 lines deleted and more than 2000 lines inserted.

sqlQuery("SELECT id, f\_linesInserted, f\_linesDeleted FROM t\_file WHERE f\_linesInserted > 2000 AND f\_linesDeleted > 3000;")

## Warning: Closing open result sets

## id f\_linesInserted f\_linesDeleted  
## 1 2190 3372 3298  
## 2 2200 28118 28024  
## 3 2205 3934 3828  
## 4 2210 3742 3624  
## 5 2211 9220 8974  
## 6 5956 3598 4750  
## 7 5983 3598 4750  
## 8 9731 5537 5537  
## 9 17043 6763 6264  
## 10 17070 16907 16137  
## 11 17091 7471 6535  
## 12 17124 17825 15480  
## 13 17194 5637 5365  
## 14 17230 16141 15495  
## 15 17270 44846 17426  
## 16 17355 19560 9035  
## 17 17775 36141 17532  
## 18 17931 15857 8912  
## 19 18072 34672 16370  
## 20 18139 14959 7956  
## 21 18275 12238 6039  
## 22 18290 30211 15019  
## 23 18339 12238 6039  
## 24 18354 30211 15019  
## 25 24456 9966 9941  
## 26 24590 4360 4010  
## 27 24628 6185 6213  
## 28 24713 8354 8354  
## 29 24738 3334 3179  
## 30 24810 12433 12500  
## 31 37704 7821 7822  
## 32 37828 4039 4039  
## 33 37972 7821 7822  
## 34 38096 4039 4039  
## 35 38240 7821 7822  
## 36 38352 4039 4039  
## 37 38488 7821 7822  
## 38 38600 4039 4039  
## 39 38736 7821 7822  
## 40 38854 4039 4039  
## 41 42696 25097 24878  
## 42 43799 25097 24878  
## 43 95139 4036 5635  
## 44 108585 3252 3252  
## 45 108685 138110 138110  
## 46 108730 3252 3252  
## 47 108829 138110 138110  
## 48 108873 3252 3252  
## 49 108973 138110 138110  
## 50 109018 3252 3252  
## 51 109117 138110 138110  
## 52 109158 3252 3252  
## 53 109261 138110 138110  
## 54 109304 3252 3252  
## 55 109403 138110 138110  
## 56 109512 138110 138110  
## 57 109619 3252 3252  
## 58 109724 138110 138110  
## 59 109837 138110 138110  
## 60 110023 138110 138110  
## 61 110139 3252 3252  
## 62 110238 138110 138110  
## 63 110284 3252 3252  
## 64 110383 138110 138110  
## 65 110428 3252 3252  
## 66 110527 138110 138110  
## 67 110591 138110 138110  
## 68 110605 3252 3252  
## 69 110645 3252 3252  
## 70 110744 138110 138110  
## 71 110788 3252 3252  
## 72 110887 138110 138110  
## 73 110997 138110 138110  
## 74 111104 3252 3252  
## 75 111208 138110 138110  
## 76 111316 138110 138110  
## 77 111426 3252 3252  
## 78 111525 138110 138110  
## 79 111569 3252 3252  
## 80 111669 138110 138110  
## 81 111779 138110 138110  
## 82 111949 138110 138110  
## 83 112122 138110 138110  
## 84 112295 138110 138110  
## 85 112400 3252 3252  
## 86 112504 138110 138110  
## 87 112547 3252 3252  
## 88 112646 138110 138110  
## 89 112690 3252 3252  
## 90 112789 138110 138110  
## 91 127482 3235 3235  
## 92 127486 3509 3472  
## 93 146449 6908 3092  
## 94 146623 52766 44034  
## 95 146669 54268 51935  
## 96 201147 8133 8211  
## 97 201227 6181 6182  
## 98 201228 11224 8325  
## 99 201259 3644 3642  
## 100 201278 2983 3017  
## 101 201537 3308 3358  
## 102 201599 3249 3253  
## 103 201960 12222 12354  
## 104 202001 7560 7565  
## 105 202075 3913 4176  
## 106 202583 3191 3334  
## 107 202610 2507 3482  
## 108 202616 5791 5788  
## 109 202940 3668 3709  
## 110 204032 5935 5936  
## 111 204849 2880 3012  
## 112 205575 5791 5788  
## 113 206407 11222 8323  
## 114 207116 8133 8211  
## 115 207243 6181 6182  
## 116 207245 11224 8325  
## 117 207297 3644 3642  
## 118 207319 2983 3017  
## 119 207715 3308 3358  
## 120 207801 3249 3253  
## 121 208281 3668 3709  
## 122 208361 12222 12354  
## 123 208430 7560 7565  
## 124 208546 3913 4176  
## 125 209262 3191 3334  
## 126 209302 2507 3482  
## 127 209309 5791 5788  
## 128 211237 8133 8211  
## 129 211364 6181 6182  
## 130 211366 11224 8325  
## 131 211418 3644 3642  
## 132 211440 2983 3017  
## 133 211836 3308 3358  
## 134 211922 3249 3253  
## 135 212402 3668 3709  
## 136 212482 12222 12354  
## 137 212551 7560 7565  
## 138 212667 3913 4176  
## 139 213383 3191 3334  
## 140 213423 2507 3482  
## 141 213430 5791 5788  
## 142 217709 5877 5827  
## 143 217710 8891 8768  
## 144 217715 5877 5827  
## 145 217716 8891 8768  
## 146 217876 6019 6013  
## 147 217880 8008 8002  
## 148 221290 11194 8314  
## 149 221304 3253 3243  
## 150 221306 11196 8316  
## 151 221311 7565 7555  
## 152 221313 3642 3577  
## 153 221321 11194 8314  
## 154 233350 5326 5326  
## 155 233385 5326 5326  
## 156 233420 5326 5326  
## 157 236670 3519 3429  
## 158 239173 3823 3801  
## 159 239185 3823 3801  
## 160 239234 3856 3850  
## 161 239246 3856 3850  
## 162 252155 13840 9023  
## 163 260339 9086 9066  
## 164 260349 9086 9066  
## 165 264792 20990 8449  
## 166 264817 6607 3531  
## 167 264893 20996 8449  
## 168 264918 6643 3531  
## 169 264994 20984 8449  
## 170 265019 6628 3531  
## 171 279646 16866 16103  
## 172 279707 5903 5622  
## 173 279758 16866 16103  
## 174 279813 5903 5622  
## 175 279858 16866 16103  
## 176 279919 5903 5622  
## 177 279970 16866 16103  
## 178 280027 5903 5622  
## 179 280077 16866 16103  
## 180 280134 5903 5622  
## 181 287143 9449 9963  
## 182 287164 9449 9963  
## 183 287185 9449 9963  
## 184 287204 9798 9963  
## 185 304045 18081 18088  
## 186 304048 6600 6599  
## 187 304049 18081 18088  
## 188 304052 6600 6599  
## 189 316896 3861 8262  
## 190 317236 4633 4870  
## 191 317409 17058 38965  
## 192 318559 54904 102263  
## 193 318872 7364 12846  
## 194 319338 7339 12819  
## 195 319494 35603 85108  
## 196 320049 7418 4567  
## 197 320298 4636 4870  
## 198 320535 20667 41460  
## 199 321768 6185 9889  
## 200 321994 19052 33530  
## 201 322052 18749 33430  
## 202 330797 111156 54904  
## 203 330801 46084 20667  
## 204 330803 12819 7339  
## 205 330817 4916 4633  
## 206 330827 4923 4636  
## 207 330841 33430 18749  
## 208 330870 4005 3985  
## 209 330872 104783 102615  
## 210 330991 4005 3985  
## 211 331019 44334 41506  
## 212 331112 9141 5941  
## 213 363893 3279 3279  
## 214 364371 4925 4925  
## 215 364376 3411 3411  
## 216 364567 3305 3305  
## 217 364638 6823 6823  
## 218 364760 4302 4302  
## 219 380538 8203 16409  
## 220 380551 8203 16409  
## 221 380570 8203 8203  
## 222 380585 8203 16409  
## 223 380604 8203 8203  
## 224 380904 11590 6956  
## 225 380938 11590 6956  
## 226 380972 11590 6956  
## 227 381807 8203 16409  
## 228 381812 8203 16409  
## 229 383326 3808 3808  
## 230 383578 3808 3808  
## 231 386023 3618 3525  
## 232 386049 6916 6822  
## 233 387611 3238 3234  
## 234 387617 9311 9307  
## 235 387673 3238 3234  
## 236 387680 9311 9307  
## 237 387736 3238 3234  
## 238 387742 9311 9307  
## 239 399111 15294 13080  
## 240 399172 5086 3519  
## 241 399201 15294 13080  
## 242 399260 5086 3519  
## 243 400127 8202 8202  
## 244 400136 3234 3234  
## 245 400142 9307 9307  
## 246 400149 3808 3808  
## 247 400163 8202 8202  
## 248 400173 3234 3234  
## 249 400179 9307 9307  
## 250 400186 3808 3808  
## 251 418429 13460 13460  
## 252 418616 13460 13460  
## 253 426229 5412 5089  
## 254 426346 5412 5089  
## 255 426463 5412 5089  
## 256 426580 5412 5089  
## 257 437696 20856 19289  
## 258 437697 6636 5916  
## 259 457520 11512 11515  
## 260 460172 17397 15252  
## 261 460222 6922 6360  
## 262 460272 17397 15252  
## 263 460322 6922 6360  
## 264 460393 6922 6360  
## 265 460416 17397 15252  
## 266 460464 17397 15252  
## 267 460492 6712 6441  
## 268 460546 6922 6360  
## 269 460629 6922 6360  
## 270 460652 17397 15252  
## 271 460689 17397 15252  
## 272 460740 6922 6360  
## 273 474398 13784 13784  
## 274 474586 13784 13784  
## 275 474774 13784 13784  
## 276 525532 3661 3363  
## 277 525555 3661 3363  
## 278 546584 4803 3667  
## 279 546675 4314 5565  
## 280 546773 4365 5368  
## 281 546863 4365 5368  
## 282 546950 4313 5565  
## 283 547069 4365 5368  
## 284 547145 4365 5368  
## 285 547184 8174 3551  
## 286 564255 3377 3376  
## 287 567336 4039 4039  
## 288 583230 3334 3334  
## 289 583376 3334 3334  
## 290 583600 3334 3334  
## 291 583646 10974 11046  
## 292 583680 3334 3334  
## 293 583898 3334 3334  
## 294 583944 10974 11046  
## 295 583978 3327 3334  
## 296 596745 2021 9276  
## 297 596768 3620 33815  
## 298 597338 3970 3186  
## 299 597547 8685 6510  
## 300 597576 39373 22033  
## 301 597587 4077 4203  
## 302 598238 3970 3186  
## 303 598851 8685 6510  
## 304 599062 39373 22033  
## 305 599066 4083 4209  
## 306 606836 158318 39480  
## 307 607279 159098 39480  
## 308 607721 158262 39480  
## 309 608152 159098 39480  
## 310 608592 158262 39480  
## 311 609057 158262 39480  
## 312 609526 158262 39480  
## 313 609984 158262 39480  
## 314 610442 158262 39480  
## 315 610930 158318 39480  
## 316 611437 158318 39480  
## 317 611918 158262 39480  
## 318 612369 159098 39480  
## 319 612829 158318 39480  
## 320 613445 7078 5890  
## 321 623055 16907 4173  
## 322 636115 6232 6322  
## 323 636308 6322 6232  
## 324 636506 6232 6322  
## 325 636699 6232 6322  
## 326 636892 6322 6232

# Q10

Issue a select statement with t\_change natural join with t\_revision with a limit of 10 records. Explain what natural join did to the rows, does it make sense? and explain the difference between natural join and inner join.

sqlQuery("SELECT \* FROM t\_change NATURAL JOIN t\_revision LIMIT 10;")

## Warning: Closing open result sets

## id  
## 1 1  
## 2 2  
## 3 3  
## 4 4  
## 5 5  
## 6 6  
## 7 7  
## 8 8  
## 9 9  
## 10 10  
## ch\_id  
## 1 jgit%2Fjgit~master~I1a3cbd49a39b150a0d49b36d572da113ca83a786  
## 2 platform%2Feclipse.platform.ui~master~I5304fbf3034113b14fd8b8a8263ece3c6eaaf856  
## 3 tracecompass%2Forg.eclipse.tracecompass~master~I1a9cfb265b0f84a717b48197b6b5848d85ba0333  
## 4 tracecompass%2Forg.eclipse.tracecompass~master~I8221249fd802cb2284c78610499f1303e0477811  
## 5 tracecompass%2Forg.eclipse.tracecompass~master~Ia8bc3a517752a121874cd559d192fa0378221716  
## 6 tracecompass%2Forg.eclipse.tracecompass~master~I68907d142b48149651612b61bbc498394f9d7966  
## 7 tracecompass%2Forg.eclipse.tracecompass~master~Ie6646a734fcf07a21c810d15c708db3a460c8765  
## 8 tracecompass%2Forg.eclipse.tracecompass~master~I98738c52f5c7f1bb81f152b38b97595056d8e60c  
## 9 tracecompass%2Forg.eclipse.tracecompass~master~Ic0800e73b85c624864825ab3f63e1bfadbacf945  
## 10 tracecompass%2Forg.eclipse.tracecompass~master~I97904967fa1e41b241ae09432313dfa6447ee63c  
## ch\_changeId ch\_changeIdNum  
## 1 I1a3cbd49a39b150a0d49b36d572da113ca83a786 85106  
## 2 I5304fbf3034113b14fd8b8a8263ece3c6eaaf856 85186  
## 3 I1a9cfb265b0f84a717b48197b6b5848d85ba0333 84044  
## 4 I8221249fd802cb2284c78610499f1303e0477811 85190  
## 5 Ia8bc3a517752a121874cd559d192fa0378221716 85191  
## 6 I68907d142b48149651612b61bbc498394f9d7966 85185  
## 7 Ie6646a734fcf07a21c810d15c708db3a460c8765 85187  
## 8 I98738c52f5c7f1bb81f152b38b97595056d8e60c 84496  
## 9 Ic0800e73b85c624864825ab3f63e1bfadbacf945 85178  
## 10 I97904967fa1e41b241ae09432313dfa6447ee63c 83896  
## ch\_project ch\_branch ch\_topic  
## 1 jgit/jgit master   
## 2 platform/eclipse.platform.ui master   
## 3 tracecompass/org.eclipse.tracecompass master   
## 4 tracecompass/org.eclipse.tracecompass master   
## 5 tracecompass/org.eclipse.tracecompass master   
## 6 tracecompass/org.eclipse.tracecompass master   
## 7 tracecompass/org.eclipse.tracecompass master   
## 8 tracecompass/org.eclipse.tracecompass master   
## 9 tracecompass/org.eclipse.tracecompass master   
## 10 tracecompass/org.eclipse.tracecompass master error recovery  
## ch\_authorAccountId ch\_createdTime ch\_updatedTime ch\_status  
## 1 1 2016-11-16 02:44:56 2016-11-17 05:16:18 NEW  
## 2 32204 2016-11-17 00:41:41 2016-11-17 05:01:14 NEW  
## 3 763 2016-10-27 20:30:48 2016-11-17 04:51:10 NEW  
## 4 763 2016-11-17 03:27:30 2016-11-17 04:49:52 NEW  
## 5 763 2016-11-17 03:27:30 2016-11-17 04:47:55 NEW  
## 6 722 2016-11-17 00:24:55 2016-11-17 04:42:19 NEW  
## 7 722 2016-11-17 00:41:57 2016-11-17 04:38:30 NEW  
## 8 65661 2016-11-04 18:50:04 2016-11-17 04:19:04 NEW  
## 9 529 2016-11-16 23:00:20 2016-11-17 04:15:31 NEW  
## 10 1003 2016-10-25 19:47:42 2016-11-17 04:01:43 NEW  
## ch\_mergeable rev\_id  
## 1 0 6fbc9fd640ce7d0cf635cdf710ae7cc2e3f5bb7e  
## 2 0 b4f5fdb655fe316f83a7483714fad4ce4e535cfd  
## 3 0 2905f05a88a1537ef19baf72f3950e56b717f9d4  
## 4 1 c6384c22d37908f09e9c369f6fca6442ac71631b  
## 5 1 da69d887b3439dea6f62d3c038cff434d014f12a  
## 6 1 b52075e2b891a3908fc65a4de80c1b92118ecfff  
## 7 1 966556a62c48f54a7b34127ca1ca52330028ed7b  
## 8 1 b0893ab89db4b473b7214dc000c88cd81acdecea  
## 9 1 89a6694adfa87929bd8749cceb9d9b8b9f82d48f  
## 10 0 cdd07b4f145312f16bb7d6b62bd7a83cf0010992  
## rev\_subject  
## 1 Define MonotonicClock interface for advanced timestamps  
## 2 Define Clock interface for advanced timestamps  
## 3 Define Clock interface for advanced timestamps  
## 4 Define Clock interface for advanced timestamps  
## 5 Define Clock interface for advanced timestamps  
## 6 Define Clock interface for advanced timestamps  
## 7 Bug 507632 - Exception in ThemeElementHelper prevents Eclipse startup.  
## 8 timing.swtbot: add flamegraph doubleclick on row test  
## 9 timing.swtbot: add flamegraph doubleclick on row test  
## 10 timing.swtbot: add flamegraph doubleclick on row test  
## rev\_message  
## 1 Define MonotonicClock interface for advanced timestamps\n\nMonotonicClock can be implemented to provide more certainity about\ntime than the standard System.currentTimeMillis() can provide. This\ncan be used by classes such as PersonIdent and Ketch to rely on\nmore certainity about time moving in a strictly ascending order.\n\nGerrit Code Review can also leverage this interface through its\nembedding of JGit and use MonotonicClock and ProposedTimestamp to\nprovide stronger assurance that NoteDb time is moving forward.\n\nChange-Id: I1a3cbd49a39b150a0d49b36d572da113ca83a786\n  
## 2 Define Clock interface for advanced timestamps\n\nClock can be implemented to provide more certainity about time\nthan the standard System.currentTimeMillis() can provide. This\ncan be used by classes such as PersonIdent and Ketch to rely on\nmore certainity about time moving in a strictly ascending order.\n\nGerrit Code Review can also leverage this interface through its\nembedding of JGit and use Clock and ProposedTimestamp to provide\nstronger assurance that NoteDb time is moving forward.\n\nChange-Id: I1a3cbd49a39b150a0d49b36d572da113ca83a786\n  
## 3 Define Clock interface for advanced timestamps\n\nClock can be implemented to provide more certainity about time\nthan the standard System.currentTimeMillis() can provide. This\ncan be used by classes such as PersonIdent and Ketch to rely on\nmore certainity about time moving in a strictly ascending order.\n\nGerrit Code Review can also leverage this interface through its\nembedding of JGit and use Clock and ProposedTimestamp to provide\nstronger assurance that NoteDb time is moving forward.\n\nChange-Id: I1a3cbd49a39b150a0d49b36d572da113ca83a786\n  
## 4 Define Clock interface for advanced timestamps\n\nClock can be implemented to provide more certainity about time\nthan the standard System.currentTimeMillis() can provide. This\ncan be used by classes such as PersonIdent and Ketch to rely on\nmore certainity about time moving in a strictly ascending order.\n\nGerrit Code Review can also leverage this interface through its\nembedding of JGit and use Clock and ProposedTimestamp to provide\nstronger assurance that NoteDb time is moving forward.\n\nChange-Id: I1a3cbd49a39b150a0d49b36d572da113ca83a786\n  
## 5 Define Clock interface for advanced timestamps\n\nClock can be implemented to provide more certainity about time\nthan the standard System.currentTimeMillis() can provide. This\ncan be used by classes such as PersonIdent and Ketch to rely on\nmore certainity about time moving in a strictly ascending order.\n\nGerrit Code Review can also leverage this interface through its\nembedding of JGit and use Clock and ProposedTimestamp to provide\nstronger assurance that NoteDb time is moving forward.\n\nChange-Id: I1a3cbd49a39b150a0d49b36d572da113ca83a786\n  
## 6 Define Clock interface for advanced timestamps\n\nClock can be implemented to provide more certainity about time\nthan the standard System.currentTimeMillis() can provide. This\ncan be used by classes such as PersonIdent and Ketch to rely on\nmore certainity about time moving in a strictly ascending order.\n\nGerrit Code Review can also leverage this interface through its\nembedding of JGit and use Clock and ProposedTimestamp to provide\nstronger assurance that NoteDb time is moving forward.\n\nChange-Id: I1a3cbd49a39b150a0d49b36d572da113ca83a786\n  
## 7 Bug 507632 - Exception in ThemeElementHelper prevents Eclipse startup.\n\nChange-Id: I5304fbf3034113b14fd8b8a8263ece3c6eaaf856\nSigned-off-by: Stefan Xenos <sxenos@gmail.com>  
## 8 timing.swtbot: add flamegraph doubleclick on row test\n\nChange-Id: I1a9cfb265b0f84a717b48197b6b5848d85ba0333\nSigned-off-by: Matthew Khouzam <matthew.khouzam@ericsson.com>\n  
## 9 timing.swtbot: add flamegraph doubleclick on row test\n\nChange-Id: I1a9cfb265b0f84a717b48197b6b5848d85ba0333\nSigned-off-by: Matthew Khouzam <matthew.khouzam@ericsson.com>\n  
## 10 timing.swtbot: add flamegraph doubleclick on row test\n\nChange-Id: I1a9cfb265b0f84a717b48197b6b5848d85ba0333\nSigned-off-by: Matthew Khouzam <matthew.khouzam@ericsson.com>\n  
## rev\_authorUsername rev\_createdTime rev\_committerUsername  
## 1 Shawn Pearce 2016-11-16 01:34:07 Shawn Pearce  
## 2 Shawn Pearce 2016-11-16 01:34:07 Shawn Pearce  
## 3 Shawn Pearce 2016-11-16 01:34:07 Shawn Pearce  
## 4 Shawn Pearce 2016-11-16 01:34:07 Shawn Pearce  
## 5 Shawn Pearce 2016-11-16 01:34:07 Shawn Pearce  
## 6 Shawn Pearce 2016-11-16 01:52:22 Shawn Pearce  
## 7 Stefan Xenos 2016-11-17 00:41:35 Stefan Xenos  
## 8 Matthew Khouzam 2016-10-27 20:30:23 Matthew Khouzam  
## 9 Matthew Khouzam 2016-10-27 20:30:23 Matthew Khouzam  
## 10 Matthew Khouzam 2016-10-27 20:30:23 Matthew Khouzam  
## rev\_committedTime rev\_ref  
## 1 2016-11-16 06:17:45 refs/changes/06/85106/6  
## 2 2016-11-16 03:22:10 refs/changes/06/85106/3  
## 3 2016-11-16 03:39:06 refs/changes/06/85106/5  
## 4 2016-11-16 03:30:05 refs/changes/06/85106/4  
## 5 2016-11-16 02:45:09 refs/changes/06/85106/2  
## 6 2016-11-16 02:44:12 refs/changes/06/85106/1  
## 7 2016-11-17 00:41:35 refs/changes/86/85186/1  
## 8 2016-10-27 20:30:23 refs/changes/44/84044/1  
## 9 2016-11-14 21:22:43 refs/changes/44/84044/3  
## 10 2016-10-27 20:38:02 refs/changes/44/84044/2  
## rev\_git  
## 1 git://git.eclipse.org/gitroot/jgit/jgit  
## 2 git://git.eclipse.org/gitroot/jgit/jgit  
## 3 git://git.eclipse.org/gitroot/jgit/jgit  
## 4 git://git.eclipse.org/gitroot/jgit/jgit  
## 5 git://git.eclipse.org/gitroot/jgit/jgit  
## 6 git://git.eclipse.org/gitroot/jgit/jgit  
## 7 git://git.eclipse.org/gitroot/platform/eclipse.platform.ui  
## 8 git://git.eclipse.org/gitroot/tracecompass/org.eclipse.tracecompass  
## 9 git://git.eclipse.org/gitroot/tracecompass/org.eclipse.tracecompass  
## 10 git://git.eclipse.org/gitroot/tracecompass/org.eclipse.tracecompass  
## rev\_repo  
## 1   
## 2   
## 3   
## 4   
## 5   
## 6   
## 7   
## 8   
## 9   
## 10   
## rev\_http rev\_ssh  
## 1 https://git.eclipse.org/r/jgit/jgit   
## 2 https://git.eclipse.org/r/jgit/jgit   
## 3 https://git.eclipse.org/r/jgit/jgit   
## 4 https://git.eclipse.org/r/jgit/jgit   
## 5 https://git.eclipse.org/r/jgit/jgit   
## 6 https://git.eclipse.org/r/jgit/jgit   
## 7 https://git.eclipse.org/r/platform/eclipse.platform.ui   
## 8 https://git.eclipse.org/r/tracecompass/org.eclipse.tracecompass   
## 9 https://git.eclipse.org/r/tracecompass/org.eclipse.tracecompass   
## 10 https://git.eclipse.org/r/tracecompass/org.eclipse.tracecompass   
## rev\_patchSetNum rev\_changeId  
## 1 6 1  
## 2 3 1  
## 3 5 1  
## 4 4 1  
## 5 2 1  
## 6 1 1  
## 7 1 2  
## 8 1 3  
## 9 3 3  
## 10 2 3

#The natural join is a join with an implicit equijoin join condition, specified on all columns with the same name between the two relations. Because both t\_change and t\_revision had 'id' columns, there are 15,887 rows returned by this natural join (the number of rows in t\_change, the shorter relation). Because t\_revision is longer, its rows past 15,887 had no match and were not included. Similarly, because only one column matched between the two relations, and in a natural join the superfluous columns are discarded, the result has a number of columns equal to the sum of columns in both relations, minus 1 (26).  
  
#This result does not make sense, as the equated rows are those with the same value for 'id.' Even if the ID value in t\_change equals that of t\_revision, they will not necessarily be equating a revision to the change that it belongs to. Ideally, we would want to combine tuples based on the change ID (and the corresponding change ID foreign key in t\_revision) so that multiple revisions could be related to their parent change.  
  
#An inner join is different from a natural join in that the inner join condition does not have to be an equijoin on columns with the same name. The join condition may be a comparison operator as well. Last, inner joins do not remove superfluous columns; the number of columns in the resulting relation is the sum of the columns in both relations being joined.