

# 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 that is provided by: X. Yang, R. G. Kula, N. Yoshida and H. Iida, "Mining the Modern Code Review Repositories: A Dataset of People, Process and Product," 2016 IEEE/ACM 13th Working Conference on Mining Software Repositories (MSR), Austin, TX, 2016, pp. 460-463.

## Setting the working directory 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='localhost')

  # 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 revisions.

```
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 third revision

```
sqlQuery("select sum(f_linesDeleted) from t_file where
f_revisionid=3;")

## Warning in .local(conn, statement, ...): Decimal MySQL column 0
imported as
## numeric

## Warning: Closing open result sets

##    sum(f_linesDeleted)
## 1                      39
```

### Q2

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

```
sqlQuery("select count(f_fileName) from t_file group by f_fileName
having count(f_fileName)>=200;")

## Warning: Closing open result sets

##    count(f_fileName)
## 1                   212
## 2                   341
```

## 3	375
## 4	428
## 5	213
## 6	1227
## 7	253

### 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) from t_history where  
hist_authorAccountId=442;")
```

```
## Warning: Closing open result sets
```

```
## count(hist_message)
## 1 65777
```

## Q4

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

```
sqlQuery("select t_people.p_name, t_people.p_accountId,
count(t_history.hist_message) as c from t_history join t_people on
t_history.hist_authorAccountId=t_people.p_accountId group by
t_people.p_accountId,t_people.p_name  having c >1000;")
```

```
## Warning: Closing open result sets
```

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

## Q5

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

```
sqlQuery("select ch_changeId, ch_project, ch_branch, ch_createdTime  
from t_change order by ch_createdTime desc limit 20;")
```

```
## Warning: Closing open result sets
```

##	ch_changeId	ch_project	ch_branch
## 1	I41c99a4230c7a0403e4b9434f2b7e62422c8389a	cbi/org.eclipse.cbi.p2repo.aggregator	master
## 2	I8221249fd802cb2284c78610499f1303e0477811	tracecompass/org.eclipse.tracecompass	master
## 3	Ia8bc3a517752a121874cd559d192fa0378221716	tracecompass/org.eclipse.tracecompass	master
## 4	I7575dcf70645573e3be668cb2ea77328326c646d	simrel/org.eclipse.simrel.build	master
## 5	I949e969c0e1e5138a3f5581dad5c5ace6491dae4	cbi/org.eclipse.cbi.p2repo.aggregator	master
## 6	Ie6646a734fcf07a21c810d15c708db3a460c8765	tracecompass/org.eclipse.tracecompass	master
## 7	I5304fbf3034113b14fd8b8a8263ece3c6eaf856	platform/eclipse.platform.ui	master
## 8	I68907d142b48149651612b61bbc498394f9d7966	tracecompass/org.eclipse.tracecompass	master
## 9	I13b2c1d6e283021df31e500d298c1f1ec2afce8d	tracecompass/org.eclipse.tracecompass	master
## 10	Ic05e256ef347d2baf6c834a7053580883b315304	tracecompass/org.eclipse.tracecompass	master
## 11	Ie08b701a93a81e956885009e10611b4db35fb4e7	orion/org.eclipse.orion.client	master
## 12	I5ecbd265729d8b09765ec20d8c1af690e38e3503	egit/egit	master
## 13	I196c3c95dafa5ea5f165d20aaac2ce07a2c53631	jgit/jgit	master
## 14	I8d59fdca2fcc693ba14497537cea43f30dfdf578	cbi/org.eclipse.cbi.p2repo.aggregator	master
## 15	Ic0800e73b85c624864825ab3f63e1bfadbac945	tracecompass/org.eclipse.tracecompass	master
## 16	If265965afba55a81da6cc49386b7f5d1bc606ad5	platform/eclipse.platform.resources	master
## 17	I9226836d4f9db5aed1bacc333b8959dda1f68c9e	jdt/eclipse.jdt.ui	master
## 18	I54d6b1794d299f311239fc152497760f1797fdd6	websites/dev.eclipse.org	master
## 19	Ie173d318c81373389749e15e61494c56af3f80e2		
## 20	Ia7a805c7de70f237a67a0ec77a214533032a99e5		

```

## 19      simrel/org.eclipse.simrel.build      master
## 20      simrel/org.eclipse.simrel.build Neon_maintenance
##          ch_createdTime
## 1  2016-11-17 03:34:54
## 2  2016-11-17 03:27:30
## 3  2016-11-17 03:27:30
## 4  2016-11-17 02:44:18
## 5  2016-11-17 01:35:22
## 6  2016-11-17 00:41:57
## 7  2016-11-17 00:41:41
## 8  2016-11-17 00:24:55
## 9  2016-11-17 00:24:15
## 10 2016-11-17 00:24:15
## 11 2016-11-17 00:05:23
## 12 2016-11-16 23:32:45
## 13 2016-11-16 23:28:15
## 14 2016-11-16 23:25:45
## 15 2016-11-16 23:00:20
## 16 2016-11-16 22:42:18
## 17 2016-11-16 21:46:30
## 18 2016-11-16 21:16:10
## 19 2016-11-16 21:10:17
## 20 2016-11-16 21:04:17

```

## Q6

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

```

sqlQuery("select distinct rev_authorUsername, rev_patchSetNum from
t_revision order by rev_patchSetNum desc limit 10;")

```

## Warning: Closing open result sets

```

##          rev_authorUsername rev_patchSetNum
## 1          Kevin Barbe          73
## 2          Kevin Barbe          72
## 3          Kevin Barbe          71
## 4          Kevin Barbe          70
## 5          Sopot Cela          35
## 6          Sopot Cela          34
## 7          Sopot Cela          33
## 8          Sopot Cela          32
## 9 Francois Le Fevre - CEA          31
## 10         Marcel Bruch          31

```

## Q7

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

```
sqlQuery("SELECT ch_status, ch_id, hist_message
FROM t_change
JOIN t_history ON ch_updatedTime=hist_createdTime
WHERE hist_createdTime like '%2016-11%'
LIMIT 10;")
```

## Warning: Closing open result sets

```
##      ch_status
## 1      NEW
## 2      NEW
## 3      NEW
## 4      NEW
## 5      NEW
## 6      NEW
## 7      NEW
## 8      NEW
## 9      NEW
## 10     NEW
##
## ch_id
## 1
jgit%2Fjgit~master~I1a3cbd49a39b150a0d49b36d572da113ca83a786
## 2
platform%2Feclipse.platform.ui~master~I5304fbf3034113b14fd8b8a8263ece3c
6eaaaf856
## 3
tracecompass%2Forg.eclipse.tracecompass~master~I1a9cfb265b0f84a717b4819
7b6b5848d85ba0333
## 4
tracecompass%2Forg.eclipse.tracecompass~master~I8221249fd802cb2284c7861
0499f1303e0477811
## 5
tracecompass%2Forg.eclipse.tracecompass~master~Ia8bc3a517752a121874cd55
9d192fa0378221716
## 6
tracecompass%2Forg.eclipse.tracecompass~master~I68907d142b48149651612b6
1bbc498394f9d7966
## 7
tracecompass%2Forg.eclipse.tracecompass~master~Ie6646a734fcf07a21c810d1
5c708db3a460c8765
## 8
tracecompass%2Forg.eclipse.tracecompass~master~I98738c52f5c7f1bb81f152b
38b97595056d8e60c
## 9
```

```

tracecompass%2Forg.eclipse.tracecompass~master~Ic0800e73b85c624864825ab
3f63e1bfadbac945
## 10
tracecompass%2Forg.eclipse.tracecompass~master~I97904967fa1e41b241ae094
32313dfa6447ee63c
##
hist_message
## 1
Patch Set 6:\n\n(1 comment)
## 2
Patch Set 1: Code-Review+1 Verified+1\n\nFix looks fine, but I also
cannot reproduce the problem reported in Bug 507632, hence I cannot
validate if the problem is fixed.
## 3
Patch Set 3:\n\n> Apparently maybe doubleclickxy was/will be merged
soon/recently.\n\nI confirm that it was merged!
## 4
Patch Set
1:\n\nare you aware of cases where it didn't fail at all even though
Status was an error? I guess the next SWTBot action of looking for the
trace in Project Explorer tree, or in an open editor would fail?
## 5
Patch Set 1: Code-Review-1\n\n(1 comment)\n\nsmall thing
## 6 Patch Set 1: Code-Review+2 Verified+1\n\nYes. But remember that
the workspace (not cleaning?) issue that we saw is much more severe
than the fact that this test ran when it shouldn't have. Another
possible symptom:
https://bugs.eclipse.org/bugs/show_bug.cgi?id=491823#c4
## 7
Patch Set 1:\n\n> This will fail faster and more precisely? that's
good. Are you sure\n > the timestamp is correct?\n\nIt passes to I
guess it is!
## 8
Patch Set 4:\n\nI am fine with this, but why not full insertion, is it
too slow?
## 9
Patch Set 1:\n\n(2
comments)\n\nI really like this change. It makes a lot of code much
cleaner and simpler to read. Moreover, it will make xml swtbot testing
easier I think.\n\nSome questions, and you need to fix that dang bug.
;)
## 10
Patch Set 3:\n\n(1 comment)\n\nThis is really cool.

```

## Q8

List the id number and the status of all the unmerge-able changes committed by 'Shawn Pearce';



```
sqlQuery("select t_change.id, ch_status from t_change inner join  
t_people on t_change.ch_authorAccountId=t_people.id where ch_mergeable  
= '0' and ch_status != 'merged' and p_name = 'Shawn Pearce';")
```

## Warning: Closing open result sets

```
##      id ch_status  
## 1      1      NEW  
## 2    126      NEW  
## 3 15529 ABANDONED  
## 4 15577 ABANDONED  
## 5 15646 ABANDONED  
## 6 15820 ABANDONED  
## 7 15821 ABANDONED  
## 8 15842 ABANDONED
```

## Q9

List the id number from t\_file where there are more than 20000 lines deleted and more than 10000 lines inserted.

```
sqlQuery ("select id from t_file where f_linesDeleted > 20000 and  
f_linesInserted > 10000;")
```

## Warning: Closing open result sets

```
##      id  
## 1    2200  
## 2   42696  
## 3   43799  
## 4  108685  
## 5  108829  
## 6  108973  
## 7  109117  
## 8  109261  
## 9  109403  
## 10 109512  
## 11 109724  
## 12 109837  
## 13 110023  
## 14 110238  
## 15 110383  
## 16 110527  
## 17 110591  
## 18 110744  
## 19 110887  
## 20 110997  
## 21 111208  
## 22 111316  
## 23 111525
```

```
## 24 111669
## 25 111779
## 26 111949
## 27 112122
## 28 112295
## 29 112504
## 30 112646
## 31 112789
## 32 146623
## 33 146669
## 34 317409
## 35 318559
## 36 319494
## 37 320535
## 38 321994
## 39 322052
## 40 330797
## 41 330801
## 42 330872
## 43 331019
## 44 597576
## 45 599062
## 46 606836
## 47 607279
## 48 607721
## 49 608152
## 50 608592
## 51 609057
## 52 609526
## 53 609984
## 54 610442
## 55 610930
## 56 611437
## 57 611918
## 58 612369
## 59 612829
```

## 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
certainty about\ntime than the standard System.currentTimeMillis() can
provide. This\ncan be used by classes such as PersonIdent and Ketch to
rely on\nmore certainty 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 certainty about
time\ntime than the standard System.currentTimeMillis() can provide.
This\ncan be used by classes such as PersonIdent and Ketch to rely
on\nmore certainty 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 certainty about
time\ntime than the standard System.currentTimeMillis() can provide.
This\ncan be used by classes such as PersonIdent and Ketch to rely
on\nmore certainty 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 certainty about
time\ntime than the standard System.currentTimeMillis() can provide.
This\ncan be used by classes such as PersonIdent and Ketch to rely

```

```

on\nmore certainty 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 certainty about
time\nthan the standard System.currentTimeMillis() can provide.
This\ncan be used by classes such as PersonIdent and Ketch to rely
on\nmore certainty 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 certainty about
time\nthan the standard System.currentTimeMillis() can provide.
This\ncan be used by classes such as PersonIdent and Ketch to rely
on\nmore certainty 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 joined the tables where each table had attributes in common ie. id column, and removed the the second 'id' column.

*#While natural join assumes the join criteria to be where same-named columns in both table match and removes the redundant column, inner join has to have the common attribute stated in the query and keeps the common column in the final table.*