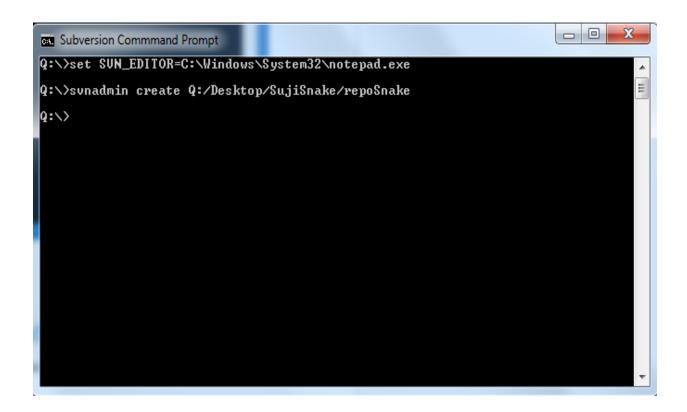
Software Methods and Tools Assignment 7

1. Create a new repository, and create a project named "Snake" at the root of your repository. Then create the following folders under "Snake": "trunk", "branches", and "tags". Submit a screenshot that shows the content the "Snake" folder.

Command to make Windows' NotePad application to edit the Subversion messages

"set SVN_EDITOR=C:\Windows\System32\notepad.exe"

Creating a Repository with name repoSnake in folder \\kc.umkc.edu\kcusers\home\s\spb4b\Desktop\SujiSanke.



Creating new folder Snake at the root of Repository repoSnake and creating a project into repository,

```
Subversion Commmand Prompt

Q:\>set SUN_EDITOR=C:\Windows\System32\notepad.exe

Q:\>svnadmin create Q:\Desktop\SujiSnake\repoSnake

Q:\>svn import Q:\Desktop\SujiSnake\snake file:\/\Desktop\SujiSnake\repoSnake\snake

Log message unchanged or not specified
(a\)bort, (c\)ontinue, (e\)dit:

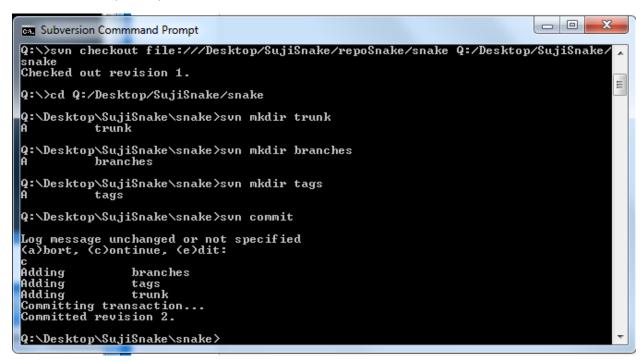
Committing transaction...

Committed revision 1.

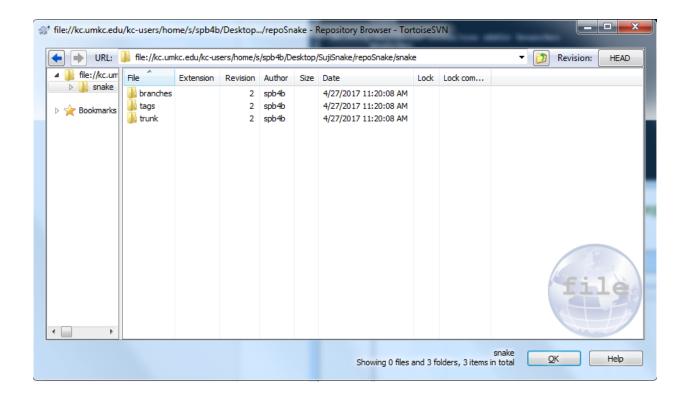
Q:\>
```

THE REVISION NUMBER "1" is created in the repository.

Creating the folders under "Snake": "trunk", "branches", "tags" and verifying through SVN if these folders exist in repository.



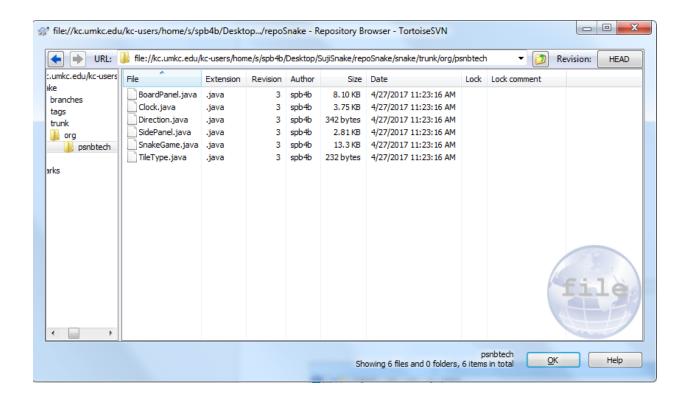
THE REVISION NUMBER "2" is created in the repository.



2. Download the source code from https://github.com/PSNB92/SnakeRemake. Put the unzipped source code (i.e. *.java) of the Snake application into the "trunk" folder of the repository. Keep the original file structure (i.e. org.psnbtech.*). Submit another screenshot that shows the content of the source code folder in the repository.

```
Subversion Commmand Prompt
Log message unchanged or not specified
(a)bort, (c)ontinue, (e)dit:
c
Adding
                                 branches
Adding
                                 tags
                                                                                                                                                                                 Ε
Adding
                                trunk
Committing transaction...
Committed revision 2.
Q:\Desktop\SujiSnake\snake>svn import Q:/Desktop/SnakeRemake-master/src file:///
Desktop/SujiSnake/repoSnake/snake/trunk
Log message unchanged or not specified
(a)bort, (c)ontinue, (e)dit:
                                Q:\Desktop\SnakeRemake-master\src\org
Q:\Desktop\SnakeRemake-master\src\org\psnbtech
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\BoardPanel.java
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\Clock.java
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\Direction.java
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\SidePanel.java
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\SidePanel.java
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\SnakeGame.java
Q:\Desktop\SnakeRemake-master\src\org\psnbtech\TileType.java
Ädding
Adding
Adding
Adding
Adding
Adding
Adding
Adding
 Committing transaction...
Committed revision 3.
Q:\Desktop\Su.iiSnake\snake>
```

THE REVISION NUMBER "3" is created in the repository.

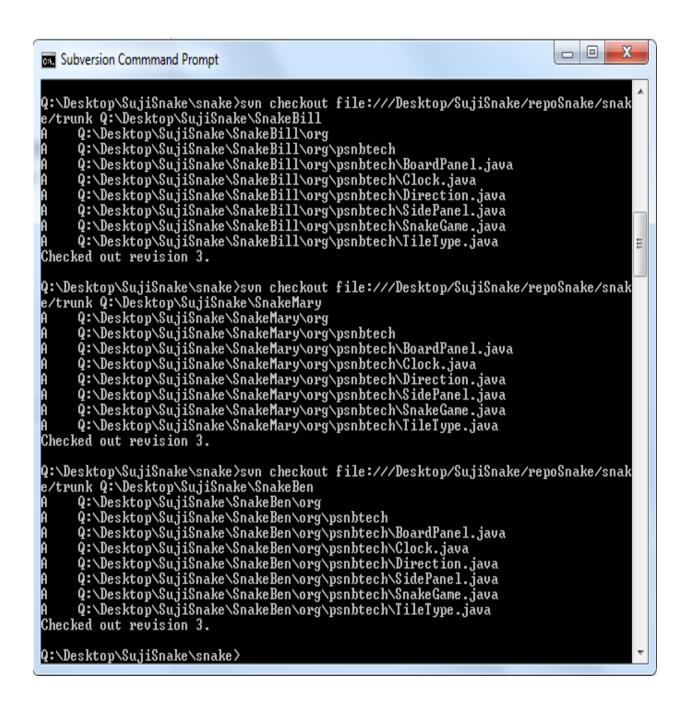


3. Create three working copies of the Snake application. You can do this by checking out the project "Snake/trunk" into three different folders, one for each developer (e.g. Bill, Mary, and Ben). The folders you created should be named as SnakeBill, SnakeMary, and SnakeBen.

Creating the three-new working copy as

- SnakeBill Q:/Desktop/SujiSnake/SnakeBill
- SnakeMary Q:/Desktop/SujiSnake/SnakeMary
- SnakeBen Q:/Desktop/SujiSnake/SnakeBen

Checkout the repository into theses 3 working copy.



4. Simulate the following events by performing the corresponding operations. After each event: (1) check the revision number of the SnakeGame.java file in the repository and in each working copy, and fill in the table below; (2) describe what problems (i.e. conflicts) you had in each event, and how you resolved them. (3) submit a screenshot showing the revision numbers of the Java files in Mary's working copy.

```
X
Subversion Commmand Prompt
Q:\Desktop\SujiSnake\snake>cd Q:/Desktop/SujiSnake/SnakeBill
Q:\Desktop\SujiSnake\SnakeBill>svn status -v
                                        3 spb4b
                          ~~~~~~~~
                                                               org
                                                               org\psnbtech
org\psnbtech\BoardPanel.java
                                                               org\psnbtech\Clock.java
org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
org\psnbtech\SnakeGame.java
                                        3 spb4b
                                                               org\psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeBill>cd Q:/Desktop/SujiSnake/SnakeMary
Q:\Desktop\SujiSnake\SnakeMary>svn status -v
                                        3 spb4b
                          ოოოოოოო
                                                               org
                                                               org\psnbtech
                                                               org\psnbtech\BoardPanel.java
                                                               org\psnbtech\Clock.java
org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
                                                               org\psnbtech\SnakeGame.java
org\psnbtech\TileType.java
                          3
                                        3 spb4b
                                        3 spb4b
Q:\Desktop\Su,jiSnake\SnakeMary>cd Q:/Desktop/Su,jiSnake/SnakeBen
Q:\Desktop\SujiSnake\SnakeBen>svn status -v
                                        3 spb4b
3 spb4b
3 spb4b
                                                               org
                                                               org\psnbtech
org\psnbtech\BoardPanel.java
                          ~~~~~~~
                                        3 spb4b
3 spb4b
3 spb4b
3 spb4b
3 spb4b
                                                               org\psnbtech\Clock.java
org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
                                                               org\psnbtech\SnakeGame.java
                                        3 spb4b
                                        3 spb4b
                                                               org\psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeBen>
```

THE REVISION NUMBER IN ALL THE WORKING COPY IS "3".

EVENT #1:

Ben made some changes to SnakeGame.java: (1) added a comment "//igore" at the end of Line 25, and a comment "//test" at the end of Line 30. Then Ben committed his changes to the repository.

Modifying Code:

```
\kc.umkc.edu\kc-users\home\s\spb4b\Desktop\Assignmnt7\SnakeBen\org\psnbtech\SnakeGame.java - Notepad++
                                                                                                                                     _ D X
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
 📇 GameController.java 🗵 🔚 GameController.java 🗵 🔚 SnakeGame.java 🗵
          import java.util.LinkedList;
import java.util.Random;
          import javax.swing.JFrame;
  11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
          ^{\prime} * The {@code SnakeGame} class is responsible for handling much of the game's logic.  
    * @author Brendan Jones
       public class SnakeGame extends JFrame {
               * The Serial Version UID.
               private static final long serialVersionUID = 6678292058307426314L;
               \star The number of milliseconds that should pass between each frame.//ignore
               private static final long FRAME_TIME = 1000L / 50L;
               * The minimum length of the snake. This allows the snake to grow //test
* right when the game starts, so that we're not just a head moving
* around on the board.
               private static final int MIN SNAKE LENGTH = 5;
               * The maximum number of directions that we can have polled in the * direction list.
                                                                                                                           UTF-8
                            length: 13731 lines: 569 Ln: 30 Col: 77 Sel: 0 | 0
                                                                                                                                              INS
Java source file
```

```
Q:\Desktop\SujiSnake\SnakeBen\sun commit

Log message unchanged or not specified
(a\)bort, (c\)ontinue, (e\)dit:

C
Sending org\psnbtech\SnakeGame.java

Transmitting file data .done
Committing transaction...

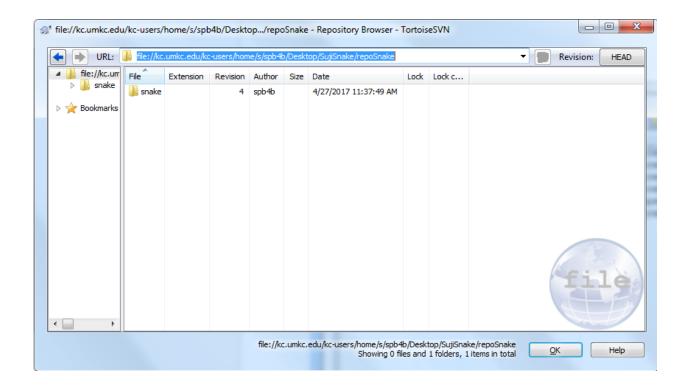
Committed revision 4.

Q:\Desktop\SujiSnake\SnakeBen\sun status -v

3 3 spb4b org
3 3 spb4b org\psnbtech\BoardPanel.java
3 3 spb4b org\psnbtech\Clock.java
4 4 spb4b org\psnbtech\Clock.java
5 3 3 spb4b org\psnbtech\Clock.java
6 3 3 spb4b org\psnbtech\Clock.java
5 3 3 spb4b org\psnbtech\Clock.java
6 3 3 spb4b org\psnbtech\Clock.java
7 3 3 spb4b org\psnbtech\Clock.java
```

THE REVISION NUMBER OF REPOSITORY IS "4" AFTER COMMIT.

```
- - X
Subversion Commmand Prompt
Sending
                   org\psnbtech\SnakeGame.java
Transmitting file data .done
Committing transaction...
Committed revision 4.
Q:\Desktop\SujiSnake\SnakeBen>svn status -v
                                3 spb4b
                     თთთთთთ
                                                    org\psnbtech
                                                    org\psnbtech\BoardPanel.java
                                                    org\psnbtech\Clock.java
                                                    org\psnbtech\Direction.java
                     3
                                                    org\psnbtech\SidePanel.java
                     4
                                 4 spb4b
                                                    org\psnbtech\SnakeGame.java
                                 3 spb4b
                     3
                                                    org\psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeBen>cd ..SnakeMary
The system cannot find the path specified.
Q:\Desktop\SujiSnake\SnakeBen>cd ../SnakeMary
Q:\Desktop\SujiSnake\SnakeMary>svn status -v
                                 3 spb4b
                                3 spb4b
                                 3 spb4b
                     333
                                                    org\psnbtech
                                3 spb4b
3 spb4b
                                                    org\psnbtech\BoardPanel.java
                                                    org\psnbtech\Clock.java
                                 3 spb4b
                     3
                                                    org\psnbtech\Direction.java
                                3 spb4b
3 spb4b
3 spb4b
3 spb4b
                                                    org\psnbtech\SidePanel.java
                     3
                     33
                                                    org\psnbtech\SnakeGame.java
                                                    org\psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeMary>cd ../SnakeBill
Q:\Desktop\SujiSnake\SnakeBill>svn status -v
                                3 spb4b
3 spb4b
                     თთთთთთ
                                                    org
                                3 spb4b
3 spb4b
3 spb4b
3 spb4b
3 spb4b
3 spb4b
                                                    org\psnbtech
                                                   org\psnbtech\BoardPanel.java
org\psnbtech\Clock.java
org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
org\psnbtech\SnakeGame.java
                                   spb4b
                     3
                                 3
                                                    org\psnbtech\TileType.java
                                   spb4b
Q:\Desktop\SujiSnake\SnakeBill>
```



Problems Faced: None

Revision Numbers of SnakeGame.java:

Event	Repository	Bill	Mary	Ben
1	4	3	3	4

Description: As only Ben has committed his modified code, so the repository and ben revision number became 4. Still Bill and Mary did not take their update of the repository their revision number would be still 3.

EVENT #2:

Mary synchronized her working copy with the repository.

Mary SVN Update:

```
_ _ _ X
 Subversion Commmand Prompt
 Q:\Desktop\SujiSnake\SnakeBill>cd ../SnakeMary
 Q:\Desktop\SujiSnake\SnakeMary>svn update
Updating '.':
U org\psnbtech\SnakeGame.java
Updated to revision 4.
org
org/psnbtech
org/psnbtech\BoardPanel.java
org/psnbtech\Clock.java
org/psnbtech\Direction.java
org/psnbtech\SidePanel.java
org/psnbtech\SnakeGame.java
org/psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeMary>cd ../SnakeBill
 Q:\Desktop\SujiSnake\SnakeBill>svn status -v
                                                        spb4b
spb4b
spb4b
spb4b
spb4b
                                                                                    org
org/psnbtech
org/psnbtech\BoardPanel.java
org/psnbtech\Clock.java
org/psnbtech\Direction.java
org/psnbtech\SidePanel.java
org/psnbtech\SnakeGame.java
org/psnbtech\TileType.java
                                                          spb4b
Q:\Desktop\SujiSnake\SnakeBill>cd ../SnakeBen
Q:\Desktop\SujiSnake\SnakeBen>sun status -v
3 3 spb4b .
3 3 spb4b org
3 3 spb4b org
3 3 spb4b org
                                                                                    org
org/psnbtech
org/psnbtech\BoardPanel.java
org/psnbtech\Clock.java
org/psnbtech\Direction.java
org/psnbtech\SidePanel.java
org/psnbtech\SnakeGame.java
org/psnbtech\TileType.java
                                                         spb4b
spb4b
spb4b
Q:\Desktop\SujiSnake\SnakeBen>
```

Problems Faced: None

Revision Numbers of SnakeGame.java:

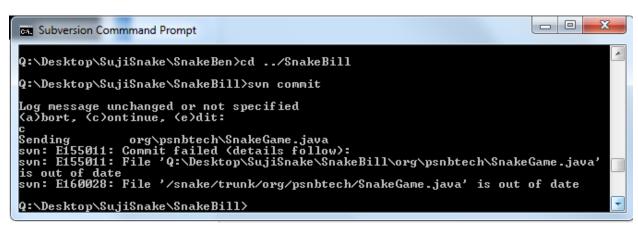
Event	Repository	Bill	Mary	Ben
2	4	3	4	4

Description: As Mary took the update her revision number changes to 4 after synchronization with the parent repository.

EVENT #3:

Bill made a change to SnakeGame.java: added a comment "//package missing." at the end of line 25. Bill resolved the conflicts, and committed his change to the repository.

```
_ D X
\kc.umkc.edu\kc-users\home\s\spb4b\Desktop\Assignmnt7\SnakeBill\org\psnbtech\SnakeGame.java - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
 ] 🖆 🖶 😘 🕞 🖟 🖒 🖒 🖍 🐚 🖍 🕽 🖒 🗩 🐞 🐪 😭 💝 💮 💮 🕞 🚍 🚍 📆 🖺 🔞 🖾 🖋 🗀 🕟 🗉 🕩
📙 GameController.java 🗵 📙 GameController.java 🗵 📙 SnakeGame.java 🗵
       package org.psnbtech;
                                                                                                                   Ε
       import java.awt.BorderLayout;
       import java.awt.Point;
       import java.awt.event.KeyAdapter;
       import java.awt.event.KevEvent;
       import java.util.LinkedList;
       import java.util.Random;
       import javax.swing.JFrame;
  12
        * The {@code SnakeGame} class is responsible for handling much of the game's logic.
  13
        * @author Brendan Jones
  14
  15
  16
     public class SnakeGame extends JFrame {
  18
            * The Serial Version UID.
           private static final long serialVersionUID = 6678292058307426314L;
           * The number of milliseconds that should pass between each frame.//package missing
  26
           private static final long FRAME_TIME = 1000L / 50L;
  28
  29
  30
            * The minimum length of the snake. This allows the snake to grow
  31
            * right when the game starts, so that we're not just a head moving
  32
            * around on the board.
                        length:13733 lines:569 Ln:25 Col:88 Sel:0|0
                                                                                   UNIX
                                                                                                 UTF-8
                                                                                                                INS
Java source file
```



Problems Faced: Conflict error due to out of date.

Solution: Update the working copy and edit and mark as resolved.

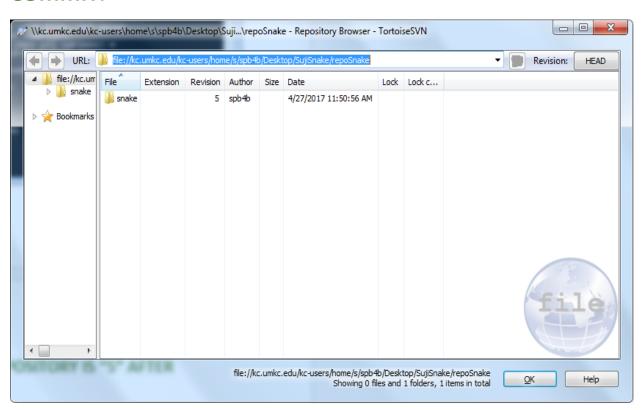
```
- - X
📝 \\kc.umkc.edu\kc-users\home\s\spb4b\Desktop\Assignmnt7\SnakeBill\org\psnbtech\SnakeGame.java - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
 ] 🔒 🔒 🖺 😘 🥱 🧥 🕹 😘 🛍 🗩 🖒 🗷 🔞 🔞 🗷 🖒 🔞 🔞 🗷
🔚 GameController.java 🗵 📙 GameController.java 🗵 🗎 SnakeGame.java 🗵
      package org.psnbtech;
                                                                                                           import java.awt.BorderLayout;
       import java.awt.Point;
       import java.awt.event.KeyAdapter;
       import java.awt.event.KeyEvent;
       import java.util.LinkedList;
       import java.util.Random;
      import javax.swing.JFrame;
 13
       * The {@code SnakeGame} class is responsible for handling much of the game's logic.
       * @author Brendan Jones
 14
 15
     public class SnakeGame extends JFrame {
 18
 19
 20
           * The Serial Version UID.
          private static final long serialVersionUID = 6678292058307426314L;
       <<<<< .mine
           * The number of milliseconds that should pass between each frame.//package missing
 27
       28
 29
 30
           * The number of milliseconds that should pass between each frame.//ignore
 31
 32
                       c finel long FDAME TIME - 1000T
                       length: 13930 lines: 575
                                                                             UNIX
                                                                                          UTF-8
                                              Ln:26 Col:88 Sel:010
                                                                                                        INS
```

The code in the line 25 is updated with latest Bill code and the Ben update in line 30 is synchronized.

Commit Code and check for version number:

```
Text conflicts: 1
Conflict discovered in file 'org\psnbtech\SnakeGame.java'.
Select: (p) postpone, (df) show diff, (e) edit file, (m) merge, (mc) my side of conflict, (tc) their side of conflict, (s) show all options: e
Select: (p) postpone, (df) show diff, (e) edit file, (m) merge, (r) mark resolved, (mc) my side of conflict, (tc) their side of conflict, (s) show all options: r
Resolved conflicted state of 'org\psnbtech\SnakeGame.java'
Summary of conflicts:
Text conflicts: 0 remaining (and 1 already resolved)
Q:\Desktop\Suji\Snake\Snake\Bill\>\sun commit
Log message unchanged or not specified
(a)\bort, (c)\ontinue, (e)\dit:
C
Sending org\psnbtech\SnakeGame.java
Transmitting file data .done
Committed revision 5.
```

THE REVISION NUMBER OF REPOSITORY IS "5" AFTER COMMIT.



```
X
Subversion Commmand Prompt
Q:\Desktop\SujiSnake\SnakeBill>svn status -v
                                    4 spb4b
4 spb4b
                       4
4
4
                                    4 spb4b
4 spb4b
3 spb4b
3 spb4b
3 spb4b
3 spb4b
5 spb4b
                                                         org\psnbtech
                                                         org\psnbtech\BoardPanel.java
                                                         org\psnbtech\Clock.java
org\psnbtech\Clock.java
org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
org\psnbtech\SnakeGame.java
org\psnbtech\SnakeGame.java.edited
                       4
5
                       4
                                    3 spb4b
                                                         org\psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeBill>cd ../SnakeMary
Q:\Desktop\SujiSnake\SnakeMary>svn status -v
                                    4 spb4b
4 spb4b
                                                         org
                                    4 spb4b
                                                         org\psnbtech
                                    3 sph4h
3 sph4h
3 sph4h
3 sph4h
                                                         org\psnbtech\BoardPanel.java
                                                         org\psnbtech\Clock.java
                                                         org\psnbtech\Direction.java
                                                         org\psnbtech\SidePanel.java
org\psnbtech\SnakeGame.java
                       4
                                    4 spb4b
                       4
                                    3 spb4b
                                                         org\psnbtech\TileType.java
Q:\Desktop\SujiSnake\SnakeMary>cd ../SnakeBen
Q:\Desktop\SujiSnake\SnakeBen>svn status -v
                                    3 spb4b
                       ,,,,,,,,,,
                                    3 spb4b
3 spb4b
3 spb4b
                                                         org
                                                         org\psnbtech
                                                         org\psnbtech\BoardPanel.java
                                    3 spb4b
                                                         org\psnbtech\Clock.java
                                                         org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
                                    3 spb4b
3 spb4b
                                                         org\psnbtech\SnakeGame.java
                                                                                                                 Ε
                                    4 spb4b
                                    3 spb4b
                                                         org\psnbtech\TileType.java
Q:\Desktop\Su.jiSnake\SnakeBen>
```

Revision Numbers of SnakeGame.java:

Event	Repository	Bill	Mary	Ben
3	5	5	4	4

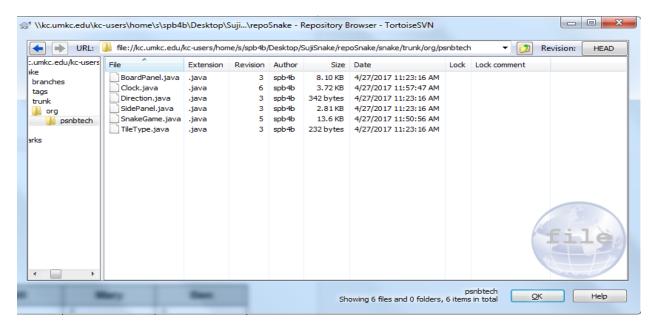
Description: Ben tried to commit his code without taking an update then error has occurred, so he should take an update and edit the code and mark as resolved before committing his latest code. The error is occurred so the previous modification by others is not deleted.

EVENT #4:

Bill changed the file, Clock.java (e.g. removed the fifth line of code). He then committed his change to the repository.

Bill removed line 5 of Clock.java and commit.

THE REVISION NUMBER OF REPOSITORY IS "6"



Problems Faced: None

Revision Numbers of SnakeGame.java:

Event	Repository	Bill	Mary	Ben
4	5	5	4	4

Revision Numbers of Clock.java:

Event	Repository	Bill	Mary	Ben
4	6	6	3	3

Description: Bill modified the Clock.java code so the revision number is incremented for repository and Bill working copy. But the SnakeGame.java revision number is not incremented.

EVENT #5:

Ben synchronized his working copy with the repository.

Ben Update his Copy:

```
- - X
 Subversion Commmand Prompt
 Q:\Desktop\SujiSnake\SnakeBen>svn update
V.\Desktop\coag\sold
Updating '.':
U org\psnbtech\SnakeGame.java
G org\psnbtech\Clock.java
Updated to revision 6.
 Q:\Desktop\SujiSnake\SnakeBen>svn status -v
                                                                   Ben>sun
6 sph4h
6 sph4h
6 sph4h
3 sph4h
6 sph4h
3 sph4h
3 sph4h
3 sph4h
5 sph4h
5 sph4h
                                            6
                                                                                                          org
org/psnbtech
org/psnbtech\BoardPanel.java
org/psnbtech\Clock.java
org/psnbtech\Direction.java
org/psnbtech\SidePanel.java
org/psnbtech\SnakeGame.java
org/psnbtech\TileType.java
 Q:\Desktop\SujiSnake\SnakeBen>cd ../SnakeBill
org
org\psnbtech
org\psnbtech\BoardPanel.java
org\psnbtech\Clock.java
org\psnbtech\Direction.java
org\psnbtech\SidePanel.java
org\psnbtech\SnakeGame.java
org\psnbtech\SnakeGame.java
org\psnbtech\TileType.java
                                            4
                                                                    3 spb4b
 Q:\Desktop\SujiSnake\SnakeBill>cd ../SnakeMary
Q:\Desktop\SujiSnake\SnakeMary>sun status -u
4 4 spb4b org
4 4 spb4b org
4 4 spb4b org
4 3 spb4b org
                                                                                                          org
org/psnbtech
org/psnbtech/BoardPanel.java
org/psnbtech/Clock.java
org/psnbtech/Direction.java
org/psnbtech/SidePanel.java
org/psnbtech/SnakeGame.java
org/psnbtech/TileType.java
Q:\Desktop\SujiSnake\SnakeMary>
```

Problems Faced: None

Revision Numbers of SnakeGame.java:

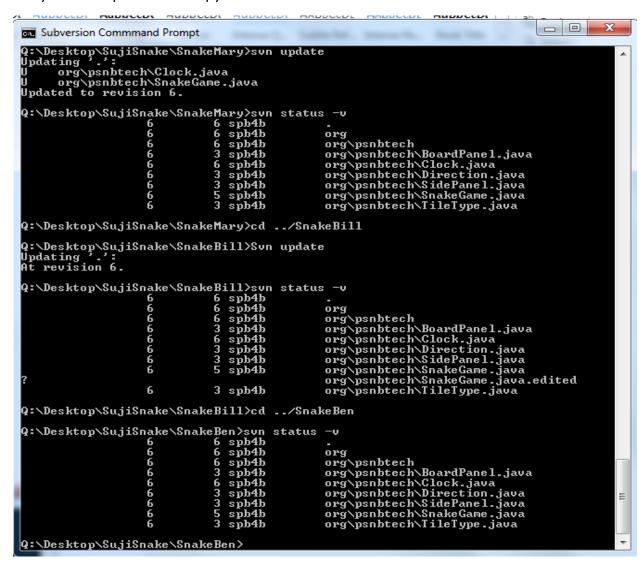
Event	Repository	Bill	Mary	Ben
5	5	5	4	5

Description: Ben working copy is synchronized with revision number of repository.

EVENT #6:

Mary and Bill both synchronized their working copies with the repository.

Mary and Bill Update their Copy:



Problems Faced: None

Revision Numbers of SnakeGame.java:

Event	Repository	Bill	Mary	Ben
6	5	5	5	5

Description: Bill and Mary have the latest copy of project after the update.

COMANDS USED:

Command	Use
set	To use the notepad as editing source
SVN_EDITOR=C:\Windows\System32\notepad.exe	
svn admin create Q:/Desktop/repo	To create the central repository
svn import Q:/Desktop/Snake	To import project into central repository
file:///Desktop/repo/Snake	
svn mkdir directoryname	To create a directory (in the specified folder use
	cd /Snake)
svn checkout file:///Desktop/repos/snake/trunk	To checkout
Q:/Desktop/SnakeBill	
svn status -v	To check for status
svn commit	To commit code to repos
svn update	To update the code to the revision number of
	repos.

Observation Notes:

- 1. Its good practice to take an update before modifying the code.
- 2. When an old version working copy is modified and committed then it throws an error.
- 3. A new edited copy is created when merging with an new version copy.
- 4. Only the version number of the updated file is incremented and for other code it's not incremented.