МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РФ

Федеральное государственное автономное образовательное учреждение высшего образования "Национальный исследовательский университет ИТМО"

ФАКУЛЬТЕТ ПРОГРАММНОЙ ИНЖЕНЕРИИ И КОМПЬЮТЕРНОЙ ТЕХНИКИ

ЛАБОРАТОРНАЯ РАБОТА №2

по дисциплине "МЕТОДЫ И СРЕДСТВА ПРОГРАММНОЙ ИНЖЕНЕРИИ"

Вариант: 450892.

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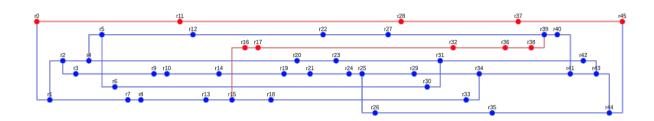
1 Задание:

Сконфигурировать в своём домашнем каталоге репозитории svn и git и загрузить в них начальную ревизию файлов с исходными кодами (в соответствии с выданным вариантом).

Воспроизвести последовательность команд для систем контроля версий svn и git, осуществляющих операции над исходным кодом, приведённые на блок-схеме.

При составлении последовательности команд необходимо учитывать следующие условия:

- Цвет элементов схемы указывает на пользователя, совершившего действие (красный первый, синий второй).
- Цифры над узлами номер ревизии. Ревизии создаются последовательно.
- Необходимо разрешать конфликты между версиями, если они возникают.



2 SVN:

2.1 Конфигурация репозитория:

```
svnadmin create repo
cd repo
svn mkdir -m "create structure" file:///home/studs/s336759/repo/trunk file:///home/studs/s336759/repo/branches file:///home/studs/s336759/repo/tags --username="DoraGotova"
svn checkout file:///home/studs/s336759/repo/trunk workspace
cd workspace
```

2.2 Список команд:

```
# r5
 ---- syn copy file:///home/studs/s336759/repo/branches/fork_from_r1 file:///home/studs/s336759/repo/branches/fork_from_r4 -m "forked from r4" --username="DEAD_
 INSIDE_PSYCHOGHOUL_KANEKI_KEM_GENET_EYDDAN_4_1000-7"
svn switch file:///home/studs/s336759/repo/branches/fork_from_r4
mv -f ~/src/commit5/* ./
svn add *
 svn commit -m "commit r5" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r6
# r6
svn copy file:///home/studs/s336759/repo/branches/fork_from_r4 file:///home/studs/s336759/repo/branches/fork_from_r5 -m "forked from r5" --username="DEAD_
INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn switch file://home/studs/s336759/repo/branches/fork_from_r5
mv -f ^/src/commit6/* ./
svn add *
svn commit -m "commit r6" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
"I's vn switch file:///home/studs/s336759/repo/branches/fork_from_r0
mv -f ~/src/commit7/* ./
svn add **
svn add **
svn commit -m "commit r7" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r8
mv -f ~/src/commit8/* ./
 svn add *
svn commit -m "commit r8" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r9
svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
mv -f ^/src/commit9/* ./
svn add *
 svn commit -m "commit r9" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r10
mv -f ^/src/commit10/* ./
svn add *
svn commit -m "commit r10" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 # r11
# rii

svn switch file:///home/studs/s336759/repo/trunk

mv -f ~/src/commit11/* ./

svn add *

svn commit -m "commit ri1" --username="DoraGotova"
svn switch file:///home/studs/s336759/repo/branches/fork_from_r4
mv -f ^/src/commit12/* ./
svn add *
 svn commit -m "commit r12" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r13
svn switch file:///home/studs/s336759/repo/branches/fork_from_r0
mv -f ^/src/commit13/* ./
svn add *
 svn commit -m "commit r13" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
"114" svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
mv -f ~/src/commit14/* ./
svn add **
svn add **
svn commit -m "commit r14" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
**115 svn switch file:///home/studs/s336759/repo/branches/fork_from_r0 mv -f ~/src/commit15/* ./
svn add *
 svn commit -m "commit r15" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 # r16
 w rio copy file:///home/studs/s336759/repo/branches/fork_from_r0 file:///home/studs/s336759/repo/branches/fork_from_r15 -m "forked from r15" --username=
 "DoraGotova"
"DoraGotova"

svn switch file:///home/studs/s336759/repo/branches/fork_from_r15

mv -f ~/src/commit16/* ./

svn add *

svn commit -m "commit r16" --username="DoraGotova"
# r17
mv -f ~/src/commit17/* ./
 svn add *
 svn commit -m "commit r17" --username="DoraGotova"
# rio
svn switch file:///home/studs/s336759/repo/branches/fork_from_r0
mv -f ~/src/commit18/* ./
svn add *
 svn commit -m "commit r18" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 # r19
"113" svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
mv -f ~/src/commit19/* ./
svn add **
svn add **
svn commit -m "commit r19" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
"IZW svn switch file:///home/studs/s336759/repo/branches/fork_from_r1
mv -f "/src/commit20/* ./
svn add *
```

```
w izi
svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
mv -f ~/src/commit21/* ./
svn add *
 svn commit -m "commit r21" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn switch file:///home/studs/s336759/repo/branches/fork_from_r4 mv -f ~/src/commit22/* ./
 svn add *
 svn commit -m "commit r22" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r23
svn switch file:///home/studs/s336759/repo/branches/fork_from_r1
mv -f ~/src/commit23/* ./
 svn add *
 svn commit -m "commit r23" --username="DEAD INSIDE PSYCHOGHOUL KANEKI KEN GENEI RYODAN 4 1000-7"
# r/4
svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
mv -f ~/src/commit24/* ./
svn add **
sv
# r25
mv -f ~/src/commit25/* ./
 svn add * svn admit r25" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 # rzb
svn copy file:///home/studs/s336759/repo/branches/fork_from_r2 file:///home/studs/s336759/repo/branches/fork_from_r25 -m "forked from r25" --username=
"DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn switch file:///home/studs/s336759/repo/branches/fork_from_r25 mv -f ~/src/commit26/* ./
 svn switch file:///home/studs/s336759/repo/branches/fork_from_r4 mv -f ~/src/commit27/* ./ svn add *
 svn commit -m "commit r27" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn switch file:///home/studs/s336759/repo/trunk
mv -f ~/src/commit28/* ./
 svn add *
svn commit -m "commit r28" --username="DoraGotova"
 # rzs
svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
mv -f ~/src/commit29/* ./
svn add *
 svn commit -m "commit r29" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
**IOO
svn switch file:///home/studs/s336759/repo/branches/fork_from_r5
mv -f ~/src/commit30/* ./
svn add **
svn add **
svn commit -m "commit r30" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# rsi
svn switch file:///home/studs/s336759/repo/branches/fork_from_r1
svn merge file:///home/studs/s336759/repo/branches/fork_from_r5 file:///home/studs/s336759/repo/branches/fork_from_r1 --username="DEAD_INSIDE_PSYCHOGHOUL_
KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn commit -m "merge r30 into r31" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
mv -f //src/commit31/* ./
svn add *
svn commit -m "commit r31" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn switch file:///home/studs/s336759/repo/branches/fork_from_r15
mv -f ~/src/commit32/* ./
svn add *
svn commit -m "commit r32" --username="DoraGotova"
svn switch file:///home/studs/s336759/repo/branches/fork_from_r0
mv -f ~/src/commit33/* ./
svn add **
svn commit -m "commit r33" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# rv4
svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
svn merge file:///home/studs/s336759/repo/branches/fork_from_r0 file:///home/studs/s336759/repo/branches/fork_from_r2 --username="DEAD_INSIDE_PSYCHOGHOUL_
KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 mv -f ~/src/commit34/* ./
svn add *
 svn commit -m "commit r34" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
**135 svn switch file:///home/studs/s336759/repo/branches/fork_from_r25 mv -f ~/src/commit35/* ./
 svn add *
 svn commit -m "commit r35" --username="DEAD INSIDE PSYCHOGHOUL KANEKI KEN GENEI RYODAN 4 1000-7"
```

```
w 150
svn switch file:///home/studs/s336759/repo/branches/fork_from_r15
mv -f ~/src/commit36/* ./
svn add *
 svn commit -m "commit r36" --username="DoraGotova"
svn switch file:///home/studs/s336759/repo/trunk
mv -f ~/src/commit37/* ./
svn add *
 svn commit -m "commit r37" --username="DoraGotova"
# r38
svn switch file:///home/studs/s336759/repo/branches/fork_from_r15
mv -f ~/src/commit38/* ./
 svn add *
 svn commit -m "commit r38" --username="DoraGotova"
 # r39 -conflict i
# rsg -conflict 1
svn switch file:///home/studs/s336759/repo/branches/fork_from_r4
svn switch file:///home/studs/s336759/repo/branches/fork_from_r15
file:///home/studs/s336759/repo/branches/fork_from_r15
svn commit -m "merge file:///home/studs/s336759/repo/branches/fork_from_r4 --username="DoraGotova"
svn commit -m "merge r38 into r39" --username="DoraGotova"
sv -f 7/src/commit39* ./
 svn add *
svn commit -m "commit r39" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
# r40
mv -f ^/src/commit40/* ./
svn add *
svn commit -m "commit r40" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 # r41 - 2 conflicts m,m
# r41 - 2 conflicts m,m
svn svitch file:///home/studs/s336759/repo/branches/fork_from_r2
svn svitch file:///home/studs/s336759/repo/branches/fork_from_r4 file:///home/studs/s336759/repo/branches/fork_from_r2 --username="DEAD_INSIDE_PSYCHOGHOUL_
KANEK_KEN_GENEI_RYDDAN_4_1000-7"
svn commit -m "merge r40 into r41" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYDDAN_4_1000-7"
sv -f "/src/commit41/* ./
svn add **
svn commit -m "commit r41" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYDDAN_4_1000-7"
 # r42
* r42*
svn switch file:///home/studs/s336759/repo/branches/fork_from_r1
mv -f ~/src/commit42/* ./
svn add *
svn add 
 # r43 - 3 cinflicts m,m,m
# r43 - 3 cinflicts m.m.m
svn switch file:///home/studs/s336759/repo/branches/fork_from_r2
svn switch file:///home/studs/s336759/repo/branches/fork_from_r1 file:///home/studs/s336759/repo/branches/fork_from_r2 --username="DEAD_INSIDE_PSYCHOGHOUL_
KANEKI_KEN_GENEI_RYODAN_4_1000-7"
svn commit -m "merge r42 into r43" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
mv -f //src/commit43/* ./
svn add *
svn commit -m "commit r43" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYODAN_4_1000-7"
 # r44 -conflict i
# r44 -conflict i
svn switch file:///home/studs/s336759/repo/branches/fork_from_r25
svn switch file:///home/studs/s336759/repo/branches/fork_from_r25
svn merge file:///home/studs/s336759/repo/branches/fork_from_r2 file:///home/studs/s336759/repo/branches/fork_from_r25 --username="DEAD_INSIDE_PSYCHOGHOUL_
KANEKI_KEN_GENEI_RYUDAN_4_1000-7"
svn commit -m "merge r43 into r44" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYUDAN_4_1000-7"
svn commit -m "merge r43 into r44" --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_RYUDAN_4_1000-7"
svn -f "/src/commit44/* ./
 svn add *
 svn commit -m "commit r44" --username="DEAD INSIDE PSYCHOGHOUL KANEKI KEN GENEI RYODAN 4 1000-7"
 # r45 = 4 conflicts
 # T45 - 4 CONTICUS
svn switch file:///home/studs/s336759/repo/trunk
svn merge file:///home/studs/s336759/repo/branches/fork_from_r25 file:///home/studs/s336759/repo/trunk --username="DEAD_INSIDE_PSYCHOGHOUL_KANEKI_KEN_GENEI_
RYODAN_4_1000-7"
svn add *
 svn commit -m "commit r45" --username="DoraGotova"
```

3 GIT:

3.1 Конфигурация репозитория:

git init gitrepo cd gitrepo

3.2 Список команд:

```
# r0
git config --global user.name "DoraGotova"
git config --global user.email "DoraGotova@gmail.com"
mv -f //src/commit0/* ./
git add *
git commit -m "commit r0"
# r1
git config --global user.name "maybemaybebaby"
git config --global user.email "maybemaybebay@gmail.com"
git checkout -b fork_from_r0
mv -f '/src/commit1/* ./
git add *
git commit -m "commit r1"
git checkout -b fork_from_r1
mv -f ~/src/commit2/* ./
git add *
git commit -m "commit r2"
# r3
git checkout -b fork_from_r2
mv -f ~/src/commit3/* ./
git add *
git commit -m "commit r3"
# r4
git checkout fork_from_r1
mv -f ~/src/commit4/* ./
git add &
git commit -m "commit r4"
# r5
git checkout -b fork_from_r4
mv -f ~/src/commit5/* ./
 git add *
git commit -m "commit r5"
# r6
git checkout -b fork_from_r5
mv -f ~/src/commit6/* ./
git add *
git commit -m "commit r6"
git checkout fork_from_r0
mv -f ~/src/commit7/* ./
git add *
git commit -m "commit r7"
# r8
mv -f ~/src/commit8/* ./
git add *
git commit -m "commit r8"
# r9
git checkout fork_from_r2
mv -f ~/src/commit9/* ./
git add *
git commit -m "commit r9"
# r10
mv -f ~/src/commit10/* ./
git add *
git commit -m "commit r10"
 # r11
# ri1
git config --global user.name "DoraGotova"
git config --global user.email "DoraGotova@gmail.com"
git checkout master
mv -f ^/src/commit11/* ./
git add *
git commit -m "commit r11"
 # r12
# r12
git config --global user.name "maybemaybebaby"
git config --global user.email "maybemaybebay@gmail.com"
git checkout fork_from_r4
mv -f ^/src/commit12/* ./
git add *
git commit -m "commit r12"
# r13
git checkout fork_from_r0
mv -f ~/src/commit13/* ./
git add *
git commit -m "commit r13"
```

```
# r14
git checkout fork_from_r2
mv -f ~/src/commit14/* ./
git add *
git commit -m "commit r14"
  # r15
git checkout fork_from_r0
mv -f ~/src/commit15/* ./
git add *
git commit -m "commit r15"
# r16
git config --global user.name "DoraGotova"
git config --global user.email "DoraGotova@gmail.com"
git checkout -b fork_from_r15
nv -f ~/src/commit16/* ./
git add *
git commit -m "commit r16"
# r17
mv -f ~/src/commit17/* ./
git add *
git commit -m "commit r17"
 # r18
# r18
git config --global user.name "maybemaybebaby"
git config --global user.email "maybemaybebay@gmail.com"
git checkout fork_from_r0
mv -f ^/src/commit18/* ./
git add *
git commit -m "commit r18"
# r19
git checkout fork_from_r2
mv -f ~/src/commit19/* ./
git add *
git commit -m "commit r19"
 # r20
git checkout fork_from_r1
mv -f ~/src/commit20/* ./
git add *
git commit -m "commit r20"
  # r21
git checkout fork_from_r2
mv -f ~/src/commit21/* ./
git add *
git commit -m "commit r21"
# r22
git checkout fork_from_r4
mv -f ~/src/commit22/* ./
git add *
git commit -m "commit r22"
  # r23
# r2s
git checkout fork_from_r1
mv -f ~/src/commit23/* ./
git add *
git commit -m "commit r23"
git checkout fork_from_r2
mv -f ~/src/commit24/* ./
git add *
git commit -m "commit r24"
# r25
mv -f "/src/commit25/* ./
git add *
git commit -m "commit r25"
git checkout -b fork_from_r25
# r26
mv -f ~/src/commit26/* ./
git add *
git commit -m "commit r26"
# r27
git checkout fork_from_r4
mv -f ~/src/commit27/* ./
git add *
git commit -m "commit r27"
# r28
git config --global user.name "DoraGotova"
git config --global user.email "DoraGotova@gmail.com"
git checkout master
mv -f ~/src/commit28/* ./
git add *
git commit -m "commit r28"
  # r29
# r29
git config --global user.name "maybemaybebaby"
git config --global user.email "maybemaybebay@gmail.com"
git checkout fork_from_r2
mv -f ^/src/commit29/* ./
git add *
git commit -m "commit r29"
```

```
# r30
# r30
git checkout fork_from_r5
mv -f ~/src/commit30/* ./
git add *
git commit -m "commit r30"
# rs1
git checkout fork_from_r1
git merge fork_from_r5 -m "merge r30 into r31"
mv -f ~/src/commit31/* ./
git add *
git commit -m "commit r31"
  # r31
# r32
git config --global user.name "DoraGotova"
git config --global user.email "DoraGotova@gmail.com"
git checkout fork_from_r15
mv -f //src/commit32/* ./
git add *
git commit -m "commit r32"
# r33
git config --global user.name "maybemaybebaby"
git config --global user.email "maybemaybebay@gmail.com"
git checkout fork_from_r0
mv -f ~/src/commit33/* ./
git add *
git commit -m "commit r33"
# r34
git checkout fork_from_r2
git merge fork_from_r0 -m "merge r33 into r34"
  resolving\ conflicts...
git add *
git commit -m "merge r33 into r34"
mv -f '/src/commit34/* ./
git add *
git commit -m "commit r34"
 # r35
git checkout fork_from_r25
mv -f ~/src/commit35/* ./
git add *
git commit -m "commit r35"
 # r36
# r36
git config --global user.name "DoraGotova"
git config --global user.email "DoraGotova@gmail.com"
git checkout fork_from_r15
mv -f "/src/commit36/* ./
git add *
git commit -m "commit r36"
git checkout master
mv -f ~/src/commit37/* ./
git add *
git commit -m "commit r37"
# r38
git checkout fork_from_r15
mv -f ~/src/commit38/* ./
git add *
git commit -m "commit r38"
# r39 - conflict
git checkout fork_from_r4
git merge fork_from_r15 -m "merge r38 into r39"
  resolving\ conflicts...
git add *
git commit -m "merge r38 into r39"
git config --global user.name "maybemaybebaby"
git config --global user.email "maybemaybebay@gmail.com"
wr -f "src/commit39/* ./
git add *
git commit -m "commit r39"
# r40
mv -f ~/src/commit40/* ./
git add *
git commit -m "commit r40"
```

r41
git checkout fork_from_r2
git merge fork_from_r4 -m "merge r40 into r41"

resolving conflicts...

```
git add *
git commit - m "merge r40 into r41"
mv - f '/src/commit41/* ./
git add *
git commit - m "commit r41"

# r42
git checkout fork_from_r1
mv - f '/src/commit42/* ./
git add *
git commit - m "commit r42"

# r43
git checkout fork_from_r2
git merge fork_from_r1 - m "merge r42 into r43"

***Tesolving conflicts...

git add *
git commit - m "merge r42 into r43"

***Tesolving conflicts...

git add *
git commit - m "commit r43"

# r44
git checkout fork_from_r25
git merge fork_from_r2 - m "merge r43 into r44"

***Tesolving conflicts...

git add *
git commit - m "merge r43 into r44"

***Tesolving conflicts...

git add *
git commit - m "merge r43 into r44"

***Tesolving conflicts...

git add *
git commit - m "commit r44"

# r45
git checkout master
git merge fork_from_r25 - m "merge r44 into r45"

***Tesolving conflicts...

git add *
git commit - m "merge r44 into r45"

***Tesolving conflicts...

git add *
git commit - m "merge r44 into r45"

***Tesolving conflicts...

git add *
git commit - m "merge r44 into r45"

***Tesolving conflicts...

git add *
git commit - m "merge r44 into r45"

***Tesolving conflicts...

git add *
git comfig --global user.email "DoraGotova@gmail.com"
mv - f '/src/commit45/* ./
git add *
git commit - m "commit r45"
```

4 Вывод:

В ходе лабораторной работы мы познакомились с системами контроля версий git и Subversion, их устройством, механикой и синтаксисом. В качестве вывода можно отметить, что git оказался значительно удобнее, более функциональным и гибким. Данное мнение разделяет и большая часть коммьюнити пользователей систем контроля версий: на 19.04.2023 интернет-ресурс https://svnhub.com/ закрыт по причине проигранной конкуренции GitHub'y.