

POLYTECHNIQUE  
MONTRÉAL

LE GÉNIE  
EN PREMIÈRE CLASSE



# Travail pratique #1: GIT et Makefiles

École polytechnique de Montréal

**Trimestre :** Hiver 2019

Équipier1: *Sami Belaidi - 1900787*

Équipier2: *Lucas Simoneau – 1885195*

**Équipe: 32**

**Présenté à :**

Polytechnique Montréal  
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## Section 4.1. Git : Initialisation de votre répertoire (2pts)

### 4.1.1. Saisie d'écran du git log [/1]

```
[MacBook-Pro-de-Lucas:log1000-32 lucassimoneau$ ls
tp1
[MacBook-Pro-de-Lucas:log1000-32 lucassimoneau$ cd tp1
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ ls
Makefile      comparison.c   comparison.h   main.c         newton.c       newton.h
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git log
commit ab45680de077226b92a1f8f4f65fb4ab00d9bd20 (HEAD -> master, origin/master, origin/HEAD)
Author: Sami Belaidi <sami.belaidi@polymtl.ca>
Date:   Mon Jan 21 15:00:11 2019 -0500

    Premier commit TP1

commit 1b2a6fdc629acea28d1672e5941d0912728eeb7f
Author: admin <gigl-technique@polymtl.ca>
Date:   Tue Sep 11 15:51:58 2012 -0400

    Commit administratif

commit 70996bca0add50159f527a3495c0e19d965081c1
Author: Luc Lalonde <Luc.Lalonde@polymtl.ca>
Date:   Tue Sep 11 15:31:01 2012 -0400

    Premier commit
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$
```

### 4.1.2. Différence entre git log et git log -p [/1]

La différence est que le git log -p donne plus de détails sur les commits que le git log. On voit les changements exacts effectués sur chacun des fichiers.

## Section 4.2. Git : Modification et gestion de conflit (20pts)

### 4.2.1. Saisie d'écran du git status [/1]

```
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ vi newton.h
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git status
On branch brancheSami
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   newton.h

no changes added to commit (use "git add" and/or "git commit -a")
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ |
```

### 4.2.2. Est-ce que cette sortie est normale ? [/1]

Oui c'est bien la sortie attendue. Nous voyons le fichier que nous avons modifié en rouge avec « modified ». Cependant les changements ne sont que locaux par la faite que l'on ne l'a pas commit.

#### 4.2.3. Saisie d'écran du git merge master [/1]

```
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git status
On branch brancheSami
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   newton.h

no changes added to commit (use "git add" and/or "git commit -a")
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git add .
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git commit -m "modification de newton.h"
[brancheSami 00fb89d] modification de newton.h
 1 file changed, 1 insertion(+), 1 deletion(-)
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git push origin branchesami
fatal: branchesami cannot be resolved to branch.
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git push origin brancheSami
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 365 bytes | 365.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0)
To https://githost.gi.polymtl.ca/git/log1000-32
 * [new branch]      brancheSami -> brancheSami
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git merge master
Already up to date.
```

#### 4.2.4. Est-ce que cette sortie est normale ? [/1]

Oui, puisque vu qu'il n'y a pas eu de changement sur la branche principale (master), il n'y a pas d'apport de nouvelles informations sur la branche créée. C'est pour cela que nous avons le « already up to date ».

#### 4.2.5. Saisie d'écran du git push origin master [/1]

```
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git merge brancheSami
Updating ab45680..00fb89d
Fast-forward
 tp1/newton.h | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git push origin master
-bash: git: command not found
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$ git push origin master
Total 0 (delta 0), reused 0 (delta 0)
To https://githost.gi.polymtl.ca/git/log1000-32
 ab45680..00fb89d master -> master
[service-WIFI-EDUROAM-LA-9-56:tp1 sami$
```

#### 4.2.6. Est-ce que cette sortie est normale ? [/1]

Oui, on peut voir que après le « git push origin master » le master a été mis a jour.

#### 4.2.7. Saisie d'écran du git merge origin/master [/1]

```
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ vi newton.h
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git add.
git: 'add.' is not a git command. See 'git --help'.

The most similar command is
    add
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git add .
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git commit -m "commentaire coequiper 2 intéressant"
[branchelucas b89bc51] commentaire coequiper 2 intéressant
 1 file changed, 2 insertions(+)
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git merge branchelucas
Updating ab45680..b89bc51
Fast-forward
 tp1/newton.h | 2 ++
 1 file changed, 2 insertions(+)
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git fetch origin
remote: Counting objects: 7, done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 2), reused 0 (delta 0)
Unpacking objects: 100% (4/4), done.
From https://github.com:polymtl.ca/git/log1000-32
 ab45680..00fb89d  master    -> origin/master
 * [new branch]    brancheSami -> origin/brancheSami
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git merge origin/master
Auto-merging tp1/newton.h
Merge made by the 'recursive' strategy.
 tp1/newton.h | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
MacBook-Pro-de-Lucas:tp1 lucassimoneau$
```

#### 4.2.8. Est-ce que cette sortie est normale ? [/1]

Oui, parce que d'après la capture il y a bien eu la modification d'un fichier

#### 4.2.9. Saisie d'écran du git push origin master du ou de la coéquipière #2 [/2]

```
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git push origin master
Enumerating objects: 14, done.
Counting objects: 100% (14/14), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (8/8), 719 bytes | 719.00 KiB/s, done.
Total 8 (delta 4), reused 0 (delta 0)
To https://github.com:polymtl.ca/git/log1000-32
 00fb89d..c923233  master -> master
MacBook-Pro-de-Lucas:tp1 lucassimoneau$
```

#### 4.2.10. Saisie d'écran du git merge origin/master pour le ou la coéquipière #1 [/2]

```
service-WIFI-EDUROAM-LA-9-56:log1000-32 sami$ git fetch origin
remote: Counting objects: 14, done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 8 (delta 4), reused 0 (delta 0)
Unpacking objects: 100% (8/8), done.
From https://github.com:polymtl.ca/git/log1000-32
 00fb89d..c923233 master    -> origin/master
service-WIFI-EDUROAM-LA-9-56:log1000-32 sami$ git merge origin/master
Updating 00fb89d..c923233
Fast-forward
 tp1/newton.h | 2 ++
 1 file changed, 2 insertions(+)
service-WIFI-EDUROAM-LA-9-56:log1000-32 sami$ |
```

#### 4.2.11. Est-ce que ces sorties sont normales ? [/2]

Oui. Vu que le coéquipier #2 a fait des changements sur la branche principale, le fait de « fetch » sur le premier ordinateur prend en compte les changements du coéquipier #2, après qu'il ait push.

#### 4.2.12. Saisie d'écran du git push origin master [/2]

```
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git commit -m "ajout en meme temps"
[master e9595d1] ajout en meme temps
 1 file changed, 1 insertion(+), 1 deletion(-)
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git push origin master
To https://github.com:polymtl.ca/git/log1000-32
 ! [rejected]        master -> master (fetch first)
error: failed to push some refs to 'https://github.com:polymtl.ca/git/log1000-32'
hint: Updates were rejected because the remote contains work that you do
hint: not have locally. This is usually caused by another repository pushing
hint: to the same ref. You may want to first integrate the remote changes
hint: (e.g., 'git pull ...') before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
MacBook-Pro-de-Lucas:tp1 lucassimoneau$ |
```

#### 4.2.13. Saisie d'écran du git status [/1]

```
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git fetch origin
remote: Counting objects: 7, done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 2), reused 0 (delta 0)
Unpacking objects: 100% (4/4), done.
From https://github.com:polymtl.ca/git/log1000-32
   c923233..cb1581f  master    -> origin/master
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git merge origin/master
Auto-merging tp1/main.c
CONFLICT (content): Merge conflict in tp1/main.c
Automatic merge failed; fix conflicts and then commit the result.
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git status
On branch master
Your branch and 'origin/master' have diverged,
and have 1 and 1 different commits each, respectively.
  (use "git pull" to merge the remote branch into yours)

You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)

        both modified:   main.c

no changes added to commit (use "git add" and/or "git commit -a")
MacBook-Pro-de-Lucas:tp1 lucassimoneau$
```

#### 4.2.14. Saisie d'écran du git push origin master [/3]

```
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git commit -m "reparation des conflits"
[master 5dcc1a8] reparation des conflits
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git push origin master
Enumerating objects: 14, done.
Counting objects: 100% (14/14), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (8/8), 708 bytes | 708.00 KiB/s, done.
Total 8 (delta 4), reused 0 (delta 0)
To https://github.com:polymtl.ca/git/log1000-32
   cb1581f..5dcc1a8  master -> master
MacBook-Pro-de-Lucas:tp1 lucassimoneau$
```



## Section 4.3. Make : Modification du code (5pts)

4.3.1. Saisie d'écran du ./newton 49 3 pour le ou la coéquipière #1 [/1]

```
[service-WIFI-EDUROAM-LA-27-111:tp1 sami$ ./newton 49 3
Compute the root value of 49.000000
With 3 iterations
Result = 7.128205
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ |
```

4.3.2. Saisie d'écran du ./newton 49 3 pour le ou la coéquipière #2 [/1]

```
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ vi main.c
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git add .
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git commit -m"modification 3"
[master 3fab6ac] modification 3
 1 file changed, 1 insertion(+), 1 deletion(-)
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ git push origin master
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 325 bytes | 325.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0)
To https://githost.gi.polymtl.ca/git/log1000-32
 1912b00..3fab6ac master -> master
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ make
gcc -o main.o -c main.c
gcc -o newton.o -c newton.c
gcc -o newton main.o newton.o -lm
[MacBook-Pro-de-Lucas:tp1 lucassimoneau$ ./newton 49 3
Compute the root value of 49.000000
With 3 iterations
Result = 7.128205
MacBook-Pro-de-Lucas:tp1 lucassimoneau$ |
```

4.3.3. Saisie d'écran du ./newton 49 3 pour le ou la coéquipière qui a modifié le code [/2]

```
[service-WIFI-EDUROAM-LA-27-111:tp1 sami$ ./newton 49 3
Compute the root value of 49.000000
With 3 iterations
Result = 7.128205
Difference: 0.018315
```

#### 4.3.4. Saisie d'écran du git push origin master pour le ou la coéquipière qui a modifié le code [/1]

```
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ make clean
rm -rf newton main.o newton.o comparison.o
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ git add .
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ git commit -m "Affiche la difference entre la valeur de newton et la racine carree"
[master 0fc14e8] Affiche la difference entre la valeur de newton et la racine carree
 3 files changed, 13 insertions(+), 7 deletions(-)
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ git fetch origin
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ git push origin master
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 874 bytes | 874.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0)
To https://github.com/polymtl-ca/git/log1000-32
   3fab6ac..0fc14e8  master -> master
service-WIFI-EDUROAM-LA-27-111:tp1 sami$ |
```



## Section 4.4, Make : Ajustement du Makefile (1pts)

4.4.1. Saisie d'écran du make et du ./newton 49 3 [/1]

```
1 EXEC = newton
2 LDFLAGS = -lm
3 CFLAGS = -W -Wall -ansi -pedantic
4 CC = gcc
5 # default command, builds an executable called "newton".
6 # executable can be called with ./newton 49 4
7 all: $(EXEC)
8
9 # link the object files into the executable.
10 # the -lm option is to tell the linker to include math libraries.
11 $(EXEC): newton.o comparison.o main.o
12 |     $(CC) -o $@ $^ $(LDFLAGS)
13
14 # compile the main.c file into the main.o object file.
15 main.o: main.c newton.h comparison.h
16 |     $(CC) -o $@ -c $<
17
18 # compile the newton.c file into the newton.o object file.
19 newton.o: newton.c newton.h
20 |     $(CC) -o $@ -c $<
21
22 comparison.o: comparison.c comparison.h
23 |     $(CC) -o $@ -c $<
24
25 # remove the executable and intermediary object files.
26 clean:
27 |     rm -rf *.o
```

```

Samis-MBP:tp1 sami$ make clean
rm -rf *.o
Samis-MBP:tp1 sami$ make
gcc -o newton.o -c newton.c
gcc -o comparison.o -c comparison.c
gcc -o main.o -c main.c
gcc -o newton newton.o comparison.o main.o -lm
ld: warning: ld: warning: URGENT: building for OSX, but linking against dylib (/usr/lib/libm.dylib) built for (unknown). Note: This will be an error in the future. URGENT: building for OSX, but linking against dylib (/usr/lib/libSystem.dylib) built for (unknown). Note: This will be an error in the future.

Samis-MBP:tp1 sami$ ./newton 49 3
Compute the root value of 49.000000
With 3 iterations
Result = 7.128205
Difference: 0.018315
Samis-MBP:tp1 sami$ |

```

## Section 4.5. Make : Ajout de nouvelles commandes (3pts)

### 4.5.1. Saisie d'écran du make install [/3]

```

Samis-MBP:tp1 sami$ make clean
rm -rf *.o
rm -rf newton
Samis-MBP:tp1 sami$ make install
gcc -o newton.o -c newton.c
gcc -o comparison.o -c comparison.c
gcc -o main.o -c main.c
gcc -o newton newton.o comparison.o main.o -lm
ld: warning: ld: warning: URGENT: building for OSX, but linking against dylib (/usr/lib/libSystem.dylib) built for (unknown). Note: This will be an error in the future. URGENT: building for OSX, but linking against dylib (/usr/lib/libm.dylib) built for (unknown). Note: This will be an error in the future.

if [ ! -d "./install" ];then \
    mkdir install; \
fi
cp -rf newton ./install/newton
Samis-MBP:tp1 sami$ |

```

## État du serveur (9pts)

Contenu du main.c final sur le serveur [/2]

Makefile final sur le serveur contient les symboles @, < et ^ appropriés [/4]

Makefile final sur le serveur contient un make install approprié [/3]

## Section 5. Rétroaction (0pts)

5.1. Temps passé sur le travail pratique [/0]

Nous avons réalisé 4 heures de travail par personne. Donc au total 8 en équipes.

Oui, l'effort demandé est adéquat parce qu'on assimile plus facilement le cours sur Git lorsque l'on tombe sur des erreurs qui permet de rectifier notre compréhension.

5.2. Recommandations [/0]

Pas de recommandation.

**TOTAL : [ /40]**