INTRO TO GIT
FLOATS AND LOOPS

Problem Solving with Computers-I

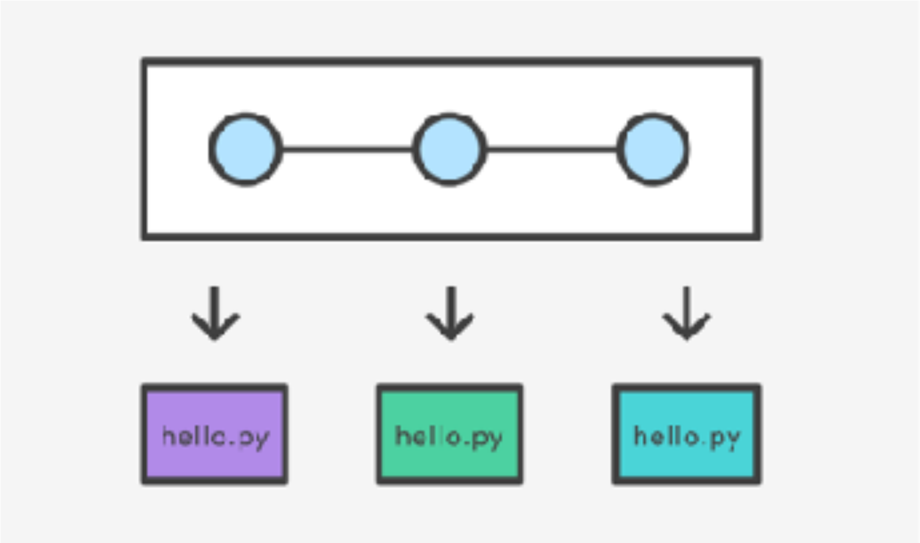
```
#include <iostream>
using namespace std;

int main(){
    cout<<"Hola Facebook!!";
    return 0;
}
```

What is git?

Git is a version control system (VCS).

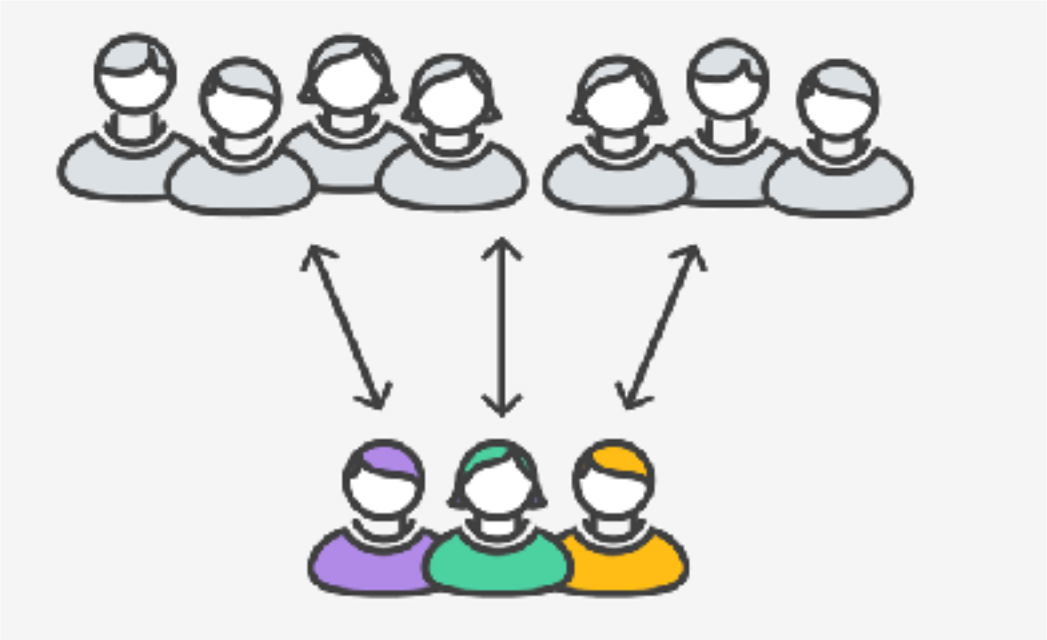
A VCS allows you to keep track of changes in a file (or groups of files) over time



Git allows you to store code on different computers and keep all these different “copies” in sync

Why are we learning git in this class?

- Collaborate
- Share code ownership
- Work on larger projects
- Provide feedback on work in progress
- Learn professional software development tools

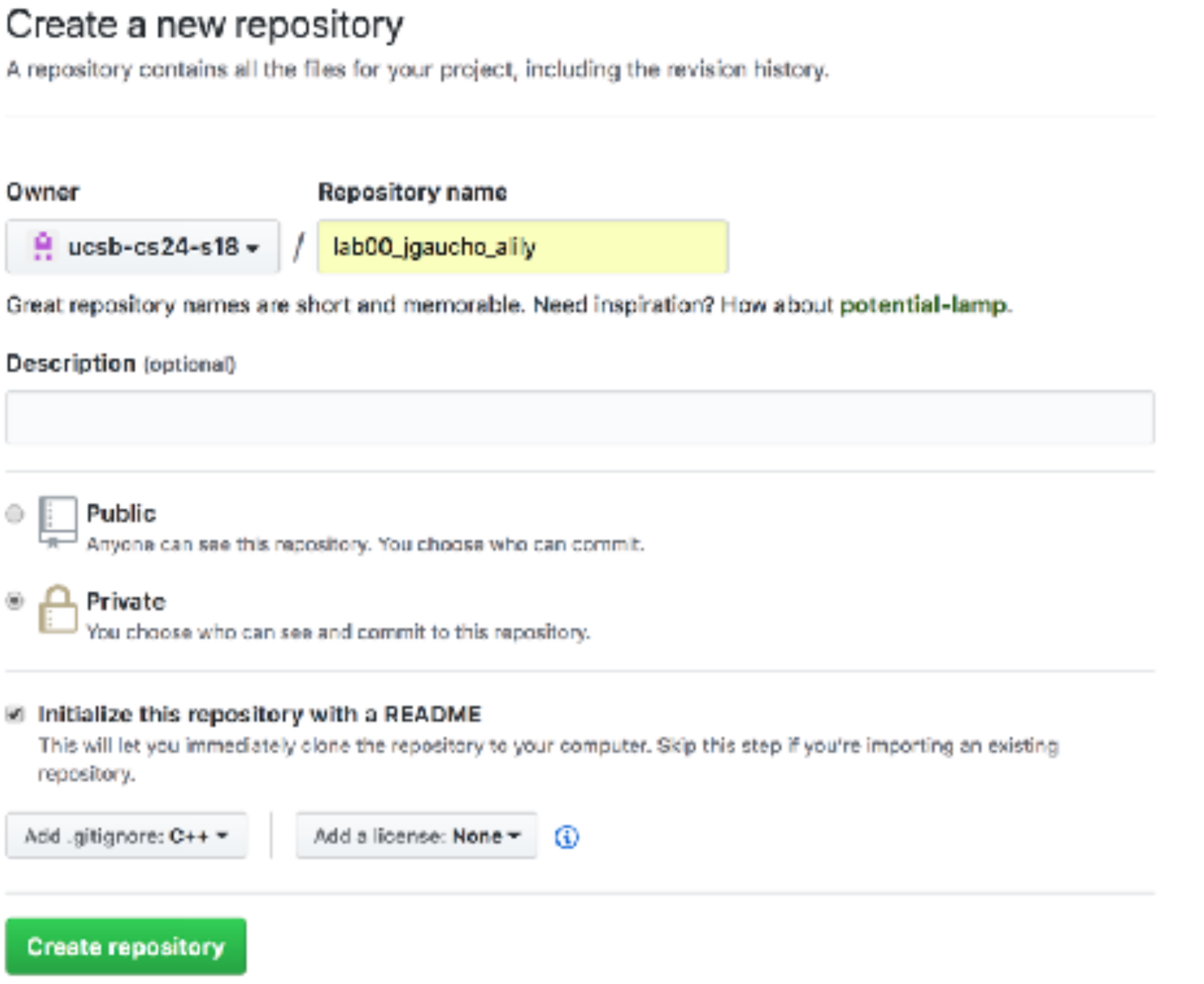


Git Concepts

repo (short for repository): a place where all your code and its history is stored

Creating a repo on the cloud (www.github.com)

Navigate to www.github.com and create a repo on the internet



Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: ucsb-cs24-s18 / Repository name: lab00_jgaucho_alily

Great repository names are short and memorable. Need inspiration? How about potential-lamp.

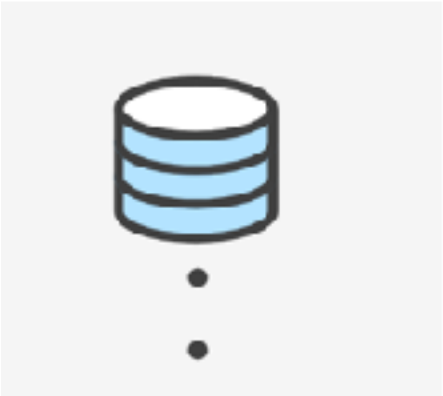
Description (optional)

○ Public
Anyone can see this repository. You choose who can commit.

● Private
You choose who can see and commit to this repository.

☑ Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: C++ | Add a license: None

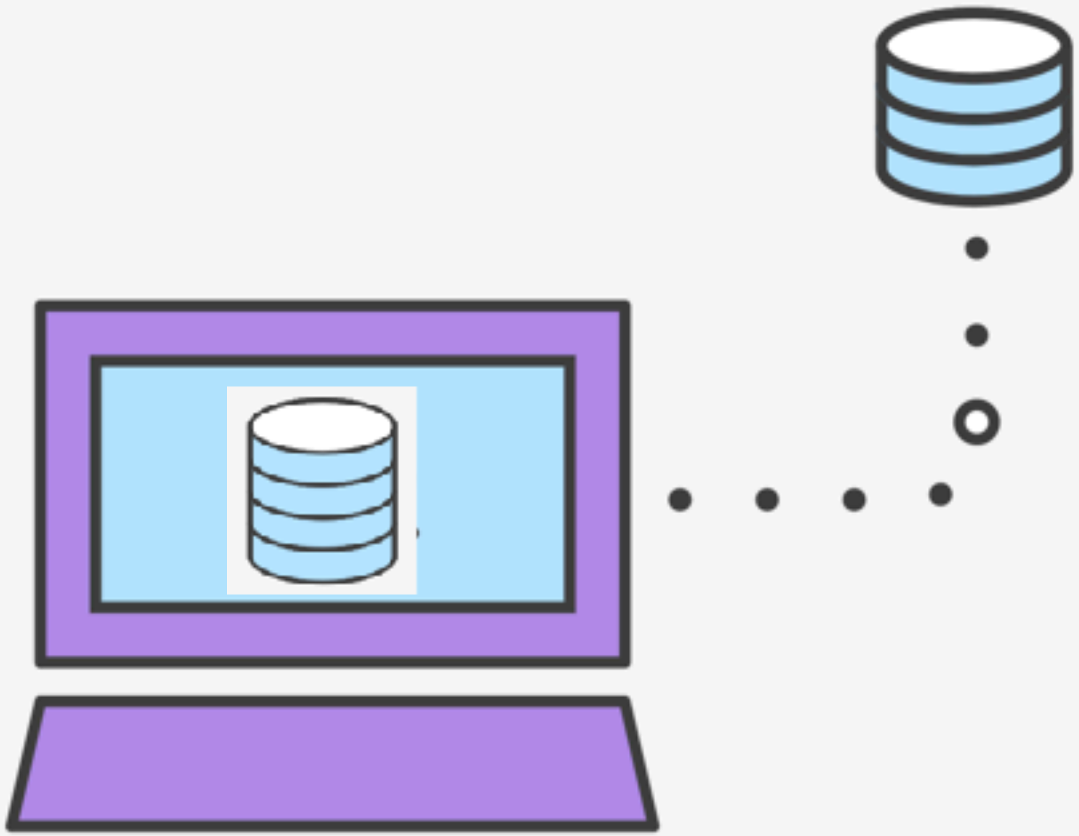


Remote repo

You may submit new versions of your code via www.github.com.
Git will remember all the different version

Cloning a repo

```
git clone <repo>
```



To get a copy of your code on your local machine, you may either download the zip file or clone the repo

Git Concepts: REPO

How is a directory different/similar to a git repository?

A. Files are tracked in a directory but not in a repository

B. Files are tracked in a repository but not in a directory

C. Files are tracked in both a directory and repository

C++ types in expressions

```
int i =10;
double sum = 1/i;
```

What is printed by the above code?

A. 0
B. 0.1
C. 1
D. None of the above

Setting up output when printing doubles

```
See pages 91 and 190 of textbook
int i =10;
double j = 1/static_cast<double>(i);
cout.setf(ios::fixed);      // Using a fixed point representation
cout.setf(ios::showpoint); //Show the decimal point
cout.precision(3);
cout<<j;
```

What is printed by the above code?

A. 0
B. 0.1
C. 0.10
D. 0.100
E. None of the above

C++ for loops

A for loop is used to repeat code (usually a fixed number of time)

C++ syntax:

Write a program that calculates the series:
1+ 1/2+ 1/3+ ….1/n,
where `n` is specified by the user

While loops

A while loop is used to repeat code while some condition is true

C++ syntax:

do-while loops

A while loop is used to repeat code until some condition is no longer true

C++ syntax:

Nested for loops – ASCII art!

Write a program that draws a square of a given width

```
./drawSquare 5

* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
```

Draw a triangle

Which line of the drawSquare code (show on the right) would you modify to draw a right angled triangle

```
./drawTriangle 5

*
* *
* * *
* * * *
* * * * *
```

```
for(int j = 0;  j < n;  j++){ //A
    for(int i=0; i < n; i++){ //B
        cout<<"* ";   //C
    }
    cout<<endl;    //D
}
 cout<<endl;      //E
```

Infinite loops

```
for(int y=0;y<10;y--)
    cout<<“Print forever\n";
```

```
int y=0;
for(;;y++)
    cout<<“Print forever\n";
```

```
int y=0;
for(;y<10;);
    y++;
```

```
int y=0;
while(y<10)
    cout<<“Print forever\n";
```

```
int y=0;
while(y=2)
    y++;
```

How is the pace of the class?

A. Too fast
B. Fast, but I am able to catch up once I do the labs
C. Slow
D. Too slow
E. Its fine for me

Next time

- C++ functions and function call mechanics
- Passing parameters to programs