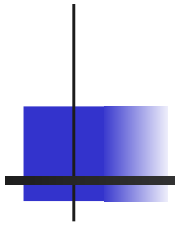

# Using Github

# What Github Does

- Online project hosting site.
- "Remote" git repository with access control
- Issue Tracking
- Documentation and web pages (github.io)
- Integrates with other services
  - Continuous Integration, e.g. CircleCI

# Github in this Course

- Submit (some) labs and quizzes
- Submit Programming Project
- Used for everything in OOP2.

# What to do

1. Create a Github Account
    - Put your REAL NAME in profile
    - Add a PHOTO that clearly shows your face
    - Include a public Email. Prefer KU-Gmail
    - Write a short profile about yourself
2. Sign-up form: **`https://goo.gl/cwrBbW`**
3. Receive an e-mail invitation to join OOP2018
4. Click to join Github Organization.

# Github Account

Students in last year's OOP course.

1. Real name
2. Photo
3. Email
4. Description of you

**Jirayu Laungwilawan**
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Block or report user

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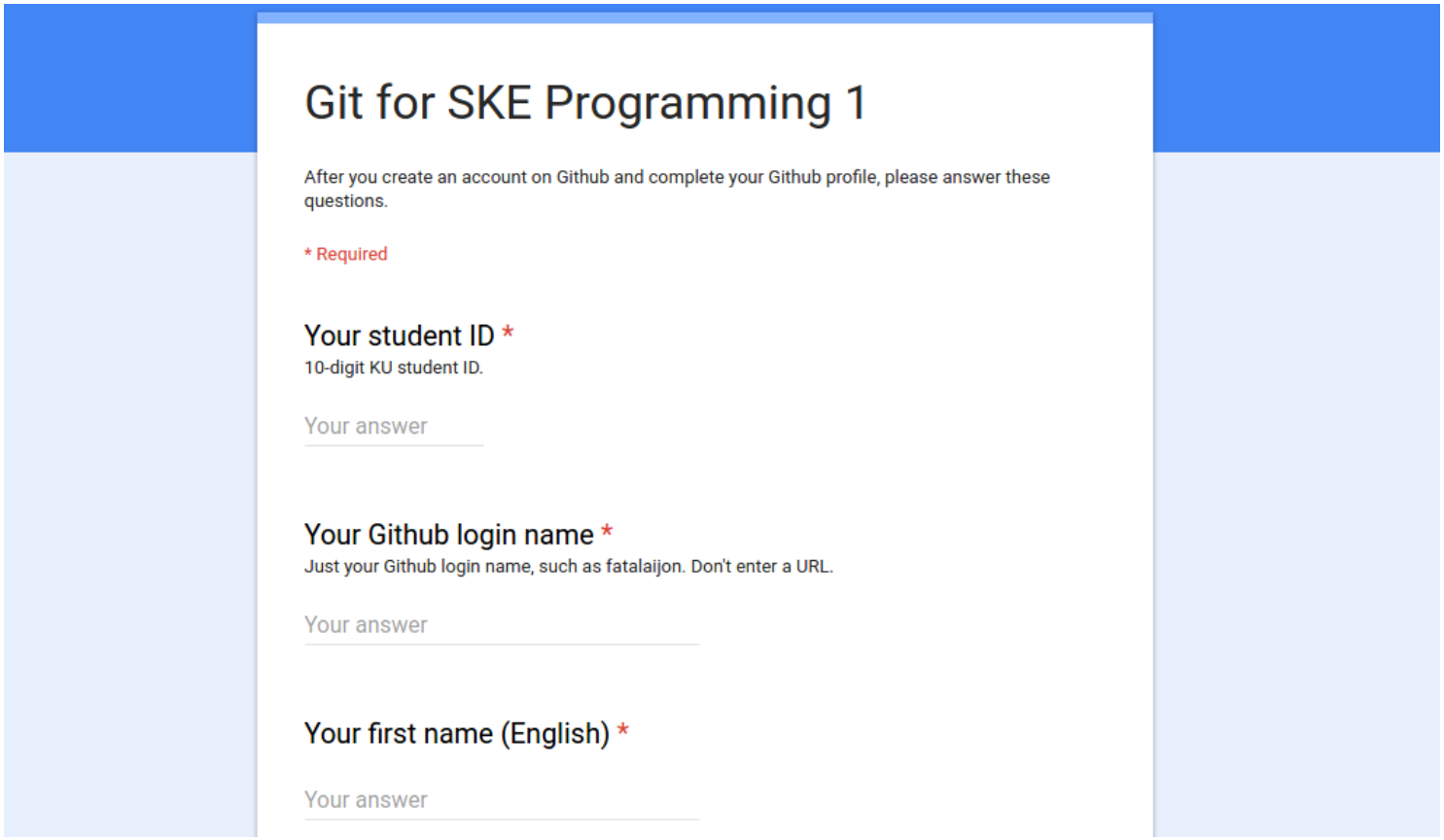
https://kykungz.github.io/

# Complete a sign-up form:

**`https://goo.gl/cwrBbW`**

Tell us your Github login!

Answer some simple questions about **`git`**.



Git for SKE Programming 1

After you create an account on Github and complete your Github profile, please answer these questions.

* Required

Your student ID *

10-digit KU student ID.

Your answer

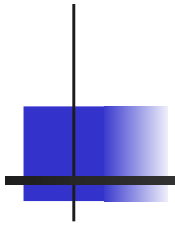
Your Github login name *

Just your Github login name, such as fatalaijon. Don't enter a URL.

Your answer

Your first name (English) *

Your answer



# How to Use Github

# 2 Situations + Special Case

Case 1: *You already have project code on your local computer.*

Case 2: *Project exists on Github. You want to copy it to your computer.*

Special Case:

Case 3: *A new project (no files yet).*

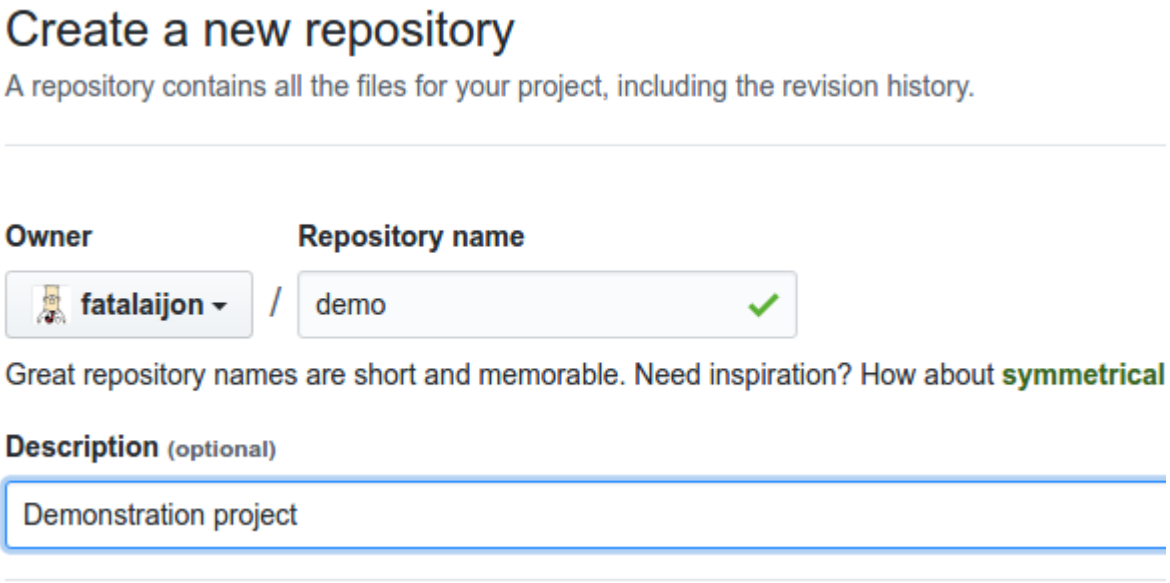
# Case 1: Starting from Local Project

*You already have a project on your computer*

1. Create a local "git" repository.

```
cmd> git init
cmd> git add .gitignore src
cmd> git commit -m "initial code checkin"
```

2. Create an empty repo on Github.



# Case 1: adding Github as remote

3. Copy the URL of new Github repository (https or ssh).


4. In your local project, add Github as a remote repository named "origin":

```
cmd> git remote add origin
     https://github.com/fatalaijon/demo.git
```

5. Copy the local repository to Github

```
cmd> git push -u origin master
```

You only need **"-u origin master"** the **first time** you push to Github. Next time, just type "**`git push`**".

# Case 2: Starting from Github

*A project already exists on Github.*
*You want to "clone" it your local computer & do work.*

1. Get the Github project URL
   **`https://github.com/fatalaijon/demo.git`**

or: go to project on Github and click on 

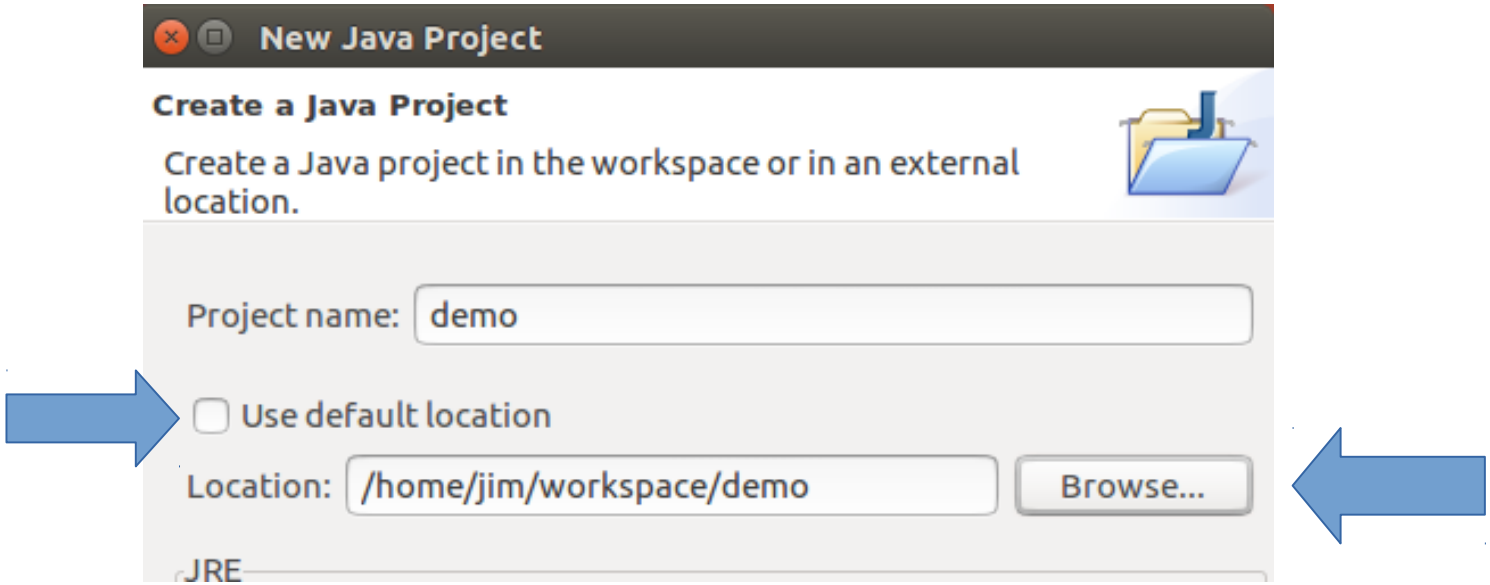

then copy the URL.

2. In your workspace, type:
   `cmd>` **`git clone https://github.com/...`**

***NOTE: "git clone" creates a new directory for the repository (named demo). If the directory already exists, clone won't work.***

# Case 2: Create an IDE project

3. Start your IDE and create a new project using the code in the directory you just cloned.




*That's it!*

Github is automatically the remote "`origin`".

Just "**`git push`**" your commited work to github.

# *You can use a different project name*

The name of your local directory (cloned from Github) can be different from the Github repository name.

1) Rename the directory yourself.

= or =

2) Specify directory name when you "**clone**":

```
# Clone "demo" into local directory "mydemo"

cmd> git clone https://github.com/fatalai jon/demo.git   mydemo
```

# Comparison of 2 Cases

# Git Workflow

*After you have a repository + Github, what do you do?*

*Git workflow for an **individual** project:*

1) Check status of your working copy:

```
cmd> git status
```

2) Commit changes or update your working copy.

"`git commit`" or "`git merge`"

3) Do some work:

Code, test. Code, test. ... Review.

Now what?

# Git Workflow (cont'd)

4) Check status again:

```
cmd> git status
Changes not staged for commit:
    modified: src/Problem2.java
Untracked files:
    src/Problem3.java
```

5) Add and commit your work to the local repository

```
cmd> git add src/Problem2.java src/Problem3.java
cmd> git commit -m "Solved problem 2 and 3"
[master 29abae0] Solved problem 2 and 3
2 files changed, 44 insertions(+), 5 deletions
```

# Git Workflow (with Github)

6) Push changes to Github

```
cmd> git push
Compressing objects: 100% (12/12), done.
Writing objects: 100% (12/12), 3.60 KiB, done.
Total 12 (delta 9), reused 0 (delta 0)
remote: Resolving deltas: 100% (9/9), ...
To https://github.com/fatailaijon/demo.git
 468abdf..29abae0  master -> master
```

That's it!

Repeat the cycle (1 - 6) as you work.

# Git Workflow for Team Projects

On a **team project**, other people will be committing files to the Github repository.

For team projects, you should update your local repository from Github before trying to "push" your work to Github.

If Github updates your local repository, then you should merge changes into your working copy and test again, before trying to push to Github.

(illustration in class)

# Assignment

https://cpske.github.io/programming1/git/git-assignment