

第一次实验报告

——版本控制 (Git) 和 LaTeX 文档编辑

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1 版本控制 (Git)

1.1 Git 下载安装

访问 Git 官方下载网址，下载 Windows 版本，然后安装。



1.2 账号配置

打开终端，用“git config”命令配置用户名和邮箱，用“git config -global - -list”命令查询结果如下：

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (master)
$ git config --global --list
user.email=2245715991@qq.com
user.name=iris-inu
```

1.3 配置 ssh keys

终端执行“ssh-keygen -t rsa”，生成 ssh。再输入“cat ~/.ssh/id_rsa.pub”命令查看公钥，复制进入已经注册好的 GitHub 平台。

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (master)
$ cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGC8YU8MVVLJqxs0r0uyz+SUM41gyQN0RvkLZwLW/+8
wIwMETfT3Iajzpm8AR7SY14fipDupPV7iohXubR/v7sioyuBRVGeV+01//nUgqKUhaIAahs8d2XEP8nw
w3+I3WRkFgRJJqa5Q8V4IYLcB5JeQxav7pU0hXraqTwphK71Tg+ig6qJxQaUgjlPrLoAFa18tISJdoRf
FHILk4IKimdUT483xBtpFb7uT+S0DcEDd8Wb/NozaND4Xlp0AZrkq/MaxUGjPDIFHp1TKEbXzwwRdXly
YxXc/1/cq1rGsMMUENo4UqxGdLAV/DaEOp1XVNeVRT5a2aq4tO5BV2vL0P3WJ2ar7sR5QkEWywtK3
jTEFe1wo9ZJPOILJmEa+CEbAfCwzQBAabxNRWT3/OdMF1bK7Q5C19krfiw9lqg6GYCmuWKTxyGSsS28V
cRiS4fu5ZE0I81P4tzhfKw1JaMFE58/4TtR2WQ1cM/+IyxKCP27b46FB4SVjMO01ErnuGsk= Adminis
trator@DESKTOP-6MF70N6
```


已经添加好的 Key：

SSH keys

[New SSH key](#)

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.

Authentication keys



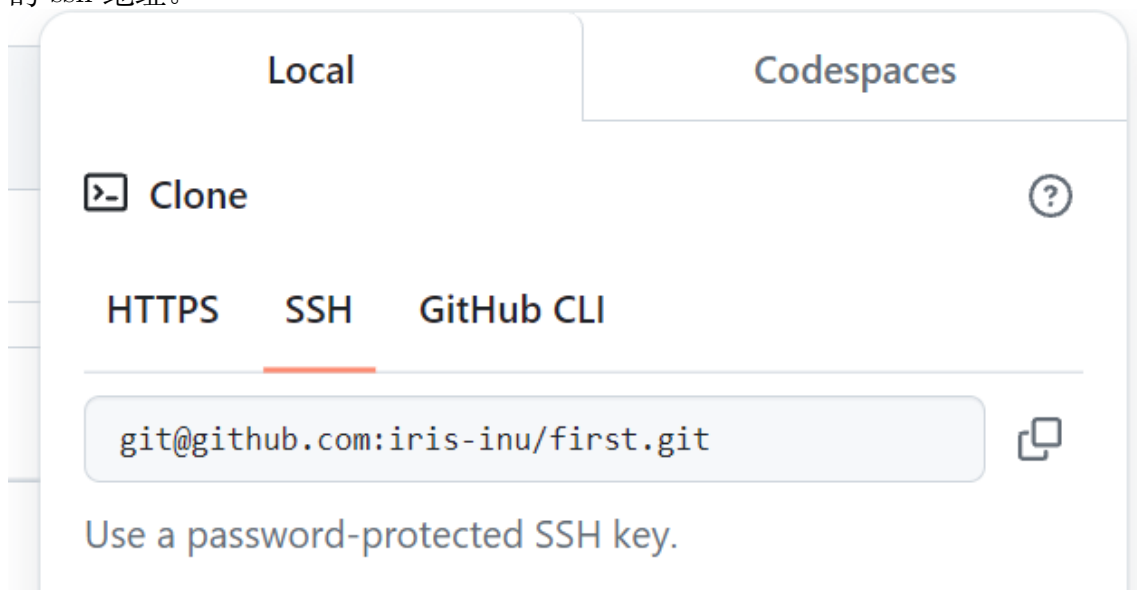
learn
SHA256: ckiwKkEH+bdZyFvwAE0rxU1PyZDZhcABJ9YPcaLYVYk
Added on Aug 26, 2024
Last used within the last week — Read/write

Delete

Check out our guide to [connecting to GitHub using SSH keys](#) or troubleshoot [common SSH problems](#).

1.4 克隆仓库

在 GitHub 中创建一个自己的仓库，我这里命名为“first”，复制仓库的 ssh 地址。



然后输入“git clone git@github.com:iris-inu/first.git”即可克隆仓库。

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (main)
$ git clone git@github.com:iris-inu/first.git
Cloning into 'first'...
warning: You appear to have cloned an empty repository.
```

1.5 在该目录添加文件

输入“cd first”打开该目录，再输入“echo hello > hello.txt”，创建一个“hello.txt”的文档文件，里面写入“hello”。

1.6 将文件提交到仓库

输入“git add .”将文件添加到暂存区。输入“git commit -m ”first commit””提交文件到仓库。输入“git push”提交到远程仓库。

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (main)
$ cd first

Administrator@DESKTOP-6MF70N6 MINGW64 ~/first (main)
$ echo hello > hello.txt

Administrator@DESKTOP-6MF70N6 MINGW64 ~/first (main)
$ git add .
warning: in the working copy of 'hello.txt', LF will be replaced by CRLF the next time Git touches it

Administrator@DESKTOP-6MF70N6 MINGW64 ~/first (main)
$ git commit -m "first commit"
[main (root-commit) 392730d] first commit
1 file changed, 1 insertion(+)
create mode 100644 hello.txt

Administrator@DESKTOP-6MF70N6 MINGW64 ~/first (main)
$ git ls-files
hello.txt

Administrator@DESKTOP-6MF70N6 MINGW64 ~/first (main)
$ git push
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 214 bytes | 214.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:iris-inu/first.git
 * [new branch]      main -> main
```

1.7 克隆本课程网站的仓库

操作同 1.4

The screenshot shows the GitHub repository page for `missing-semester-cn.github.io`, which is a public repository. The repository has 6 branches and 0 tags. A merge pull request #172 from `pspdada/master` is visible. The repository contains several files and folders, including `.github/ISSUE_TEMPLATE`, `_2019`, `_2020`, `_includes`, `_layouts`, `static`, and `.editorconfig`. A 'Clone' button is visible, and a dropdown menu is open, showing options for cloning the repository using HTTPS, SSH, or GitHub CLI. The SSH option is selected, and the repository URL `git@github.com:missing-semester-cn/missing-semester-cn.github.io.git` is displayed. Below the repository page, a terminal window shows the command `git clone git@github.com:missing-semester-cn/missing-semester-cn.github.io.git` being executed. The terminal output shows the cloning process, including enumerating objects, counting objects, compressing objects, and receiving objects. The process is completed successfully, and the terminal shows the prompt `Administrator@DESKTOP-6MF70N6 MINGW64 ~ (main)`.

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (main)
$ git clone git@github.com:missing-semester-cn/missing-semester-cn.github.io.git
Cloning into 'missing-semester-cn.github.io'...
remote: Enumerating objects: 3194, done.
remote: Counting objects: 100% (3194/3194), done.
remote: Compressing objects: 100% (1126/1126), done.
remote: Total 3194 (delta 2040), reused 2735 (delta 2033), pack-reused 0 (from 0)
Receiving objects: 100% (3194/3194), 15.44 MiB | 194.00 KiB/s, done.
Resolving deltas: 100% (2040/2040), done.
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (main)
$ |
```

1.8 将版本历史可视化并进行探索

输入“git log - --graph - -all - -decorate - -oneline”。可视化历史如图：

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~ (main)
$ cd missing-semester-cn.github.io

Administrator@DESKTOP-6MF70N6 MINGW64 ~/missing-semester-cn.github.io (master)
$ git log --graph --all --decorate --oneline
* af054fa (HEAD -> master, origin/master, origin/HEAD) Merge pull request #172 from pspdada/master
/*
/* 9baa48c remove irrelevant text
/* f5df7de fix wrong index
/* ef9a2f7 fix typo
/*
/* dd3f3dd Merge pull request #171 from HowieChih/for-better-understanding
/*
/* 8e26b4a 更新#课程概览与 shell##一个功能全面又强大的工具关于修改亮度文件报错的翻译
/* 4e2ff43 更新#课程概览与 shell##一个功能全面又强大的工具关于修改亮度文件报错的翻译
/*
/* d284d3e Merge pull request #170 from crosscap/typo-fix
/*
/* 6e27b4f fix some typo in version-control.md
/*
/* f3773ac Merge pull request #169 from xjzh123/patch-1
/*
/* 45897e1 修复multiple错译为“乘积”
/* ede827e Merge pull request #168 from DXShelley/master
/*
/*
/* 6221bbc Merge branch 'master' of https://pi-gitserver.kooldns.cn/dxshelley/missing-semester-cn 合并
/* 3417047 'test'
/*
/* de98852 将readme文件中的url的绝对路径改为相对路径，不用重复访问github，利于分享传播
/*
/* d78268f Merge pull request #162 from moralok/master
/*
/* ca4f66d Fix typo for shell-tools.md
/* 56feed9 Fix typo for version-control.md
/*
/* cb3e63c Merge pull request #160 from pascal-lc/patch-1
/*
/* 33f46e0 Update editors.md
/*
/* fded518 Merge pull request #159 from liuyd-dev/patch-1
/*
/* ee7a245 fix typos for editors.md
/*
/* 0451133 Merge pull request #157 from DavidLee528/master
/*
/* dd4a24b Update metaprogramming.md
/* b3cd512 Merge pull request #155 from DavidLee528/master
/*
/* 08108cc Update security.md
/*
/* 98c0c8f Merge pull request #153 from Fengyee/master
/*
/* 37020ca Bug fix in command-line.md
```

```

497666a Merge pull request #151 from 2090741942/master
* 1de68eb please ignore
* b41a57e 修改了一个换行
* a32dd2c 信息已修改
7c73141 Merge pull request #150 from xiucongysyx/master
* 2baec9a Fixed a word error in Lesson 5
* e93479e Modify this website warehouse in Lesson 6 to the current warehouse
* dd603a7 (origin/dependabot/bundler/nokogiri-1.14.3) Bump nokogiri from 1.11.2 to 1.14.3
* 334ee13 (origin/dependabot/bundler/activesupport-6.0.6.1) Bump activesupport from 6.0.3.1 to 6.0.6.1
c0bcfd9 Update README.md
fbf984b Merge pull request #145 from YoshidaRyoko/linkfix
* 7a92144 Fix link typo in shell-tools.md
...skipping...
af054fa (HEAD -> master, origin/master, origin/HEAD) Merge pull request #172 from pspdada/master
* 9baa48c remove irrelevant text
* f5df7de fix wrong index
* ef9a2f7 fix typo
dd3f3dd Merge pull request #171 from HowieChih/for-better-understanding
* 8e26b4a 更新#课程概览与 shell##一个功能全面又强大的工具关于修改亮度文件报错的翻译
* 4e2ff43 更新#课程概览与 shell##一个功能全面又强大的工具关于修改亮度文件报错的翻译
d284d3e Merge pull request #170 from crosscap/typo-fix
* 6e27b4f fix some typo in version-control.md
f3773ac Merge pull request #169 from xjzh123/patch-1
* 45897e1 修复multiple错译为“乘积”
ede827e Merge pull request #168 from DXShelley/master
6221bbc Merge branch 'master' of https://pi-gitserver.kooldns.cn/dxshelley/missing-semester-cn 合并
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cb3e63c Merge pull request #160 from pascal-lc/patch-1
* 33f46e0 Update editors.md
fded518 Merge pull request #159 from liuyd-dev/patch-1

```



```

* ee7a245 fix typos for editors.md
* 0451133 Merge pull request #157 from DavidLee528/master
* dd4a24b Update metaprogramming.md
* b3cd512 Merge pull request #155 from DavidLee528/master
* 08108cc Update security.md
* 98c0c8f Merge pull request #153 from Fengyee/master
* 37020ca Bug fix in command-line.md
* 497666a Merge pull request #151 from 2090741942/master
* 1de68eb please ignore
* b41a57e 修改了一个换行
* a32dd2c 信息已修改
* 7c73141 Merge pull request #150 from xiucongysyx/master
* 2baec9a Fixed a word error in Lesson 5
* e93479e Modify this website warehouse in Lesson 6 to the current warehouse
* dd603a7 (origin/dependabot/bundler/nokogiri-1.14.3) Bump nokogiri from 1.11.2 to 1.14.3
* 334ee13 (origin/dependabot/bundler/activesupport-6.0.6.1) Bump activesupport from 6.0.3.1 to 6.0.6.1
* c0bcfd9 Update README.md
* fb984b Merge pull request #145 from YoshidaRyoko/linkfix
* 7a92144 Fix link typo in shell-tools.md
* af054fa (HEAD -> master, origin/master, origin/HEAD) Merge pull request #172 from pspdada/master
* 9baa48c remove irrelevant text
* f5df7de fix wrong index
* ef9a2f7 fix typo
* dd3f3dd Merge pull request #171 from HowieChih/for-better-understanding
* 8e26b4a 更新#课程概览与 shell##一个功能全面又强大的工具关于修改亮度文件报错的翻译
* 4e2ff43 更新#课程概览与 shell##一个功能全面又强大的工具关于修改亮度文件报错的翻译
* d284d3e Merge pull request #170 from crosscap/typo-fix
* 6e27b4f fix some typo in version-control.md
* f3773ac Merge pull request #169 from xjzh123/patch-1
* 45897e1 修复multiple错译为“乘积”
* ede827e Merge pull request #168 from DXShelley/master
* 6221bbc Merge branch 'master' of https://pi-gitserver.kooldns.cn/dxshelley/missing-semester-cn 合并
* 3417047 'test'

```

```
* de98852 将readme文件中的url的绝对路径改为相对路径, 不用重复访问github, 利于分享传播
* d78268f Merge pull request #162 from moralok/master
* ca4f66d Fix typo for shell-tools.md
* 56feed9 Fix typo for version-control.md
* cb3e63c Merge pull request #160 from pascal-1c/patch-1
* 33f46e0 Update editors.md
* fded518 Merge pull request #159 from liuyd-dev/patch-1
* ee7a245 fix typos for editors.md
* 0451133 Merge pull request #157 from DavidLee528/master
* dd4a24b Update metaprogramming.md
* b3cd512 Merge pull request #155 from DavidLee528/master
* 08108cc Update security.md
* 98c0c8f Merge pull request #153 from Fengyee/master
* 37020ca Bug fix in command-line.md
* 497666a Merge pull request #151 from 2090741942/master
* 1de68eb please ignore
* b41a57e 修改了一个换行
* a32dd2c 信息已修改
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* 2baec9a Fixed a word error in Lesson 5
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* 334ee13 (origin/dependabot/bundler/activesupport-6.0.6.1) Bump activesupport from 6.0.3.1 to 6.0.6.1
* c0bcfd9 Update README.md
* fbf984b Merge pull request #145 from YoshidaRyoko/linkfix
* 7a92144 Fix link typo in shell-tools.md
```

激活 Windows
转到“设置”以激活 Windows。

1.9 查找是谁最后修改了 README.md 文件

使用 `git log` 命令配合 `-pretty=format` 参数来格式化输出, 并指定 `-- README.md` 来仅查看与 `README.md` 相关的提交: “`git log -1 --pretty=format:"%an" -- README.md`”

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~/missing-semester-cn.github.io (master)
$ git log -1 --pretty=format:"%an" -- README.md
yuzq
```

可以知道最后一个修改 `README.md` 文件的是 “yuzq”。

1.10 查找最后一次修改 `_config.yml` 文件中 `collections:` 行时的提交信息

首先, 需要使用 `git blame` 来找到 `collections:` 所在的行及其对应的提交哈希。由于 `git blame` 默认显示每行的提交信息, 可以直接搜索 `collections:` “`git blame _config.yml | grep 'collections:'`”。这将显示包含 `collections:` 的行及其对应的提交哈希、作者和日期。复制该行的提交哈希。

然后, 使用 `git show` 命令和刚才复制的提交哈希来查看详细的提交信息: “`git show <commit-hash>`”。将 `<commit-hash>` 替换为您从 `git blame` 输出中复制的哈希值。这将显示该提交的详细信息, 包括提交信息、作者、日期和更改的文件内容。

```
Administrator@DESKTOP-6MF70N6 MINGW64 ~/missing-semester-cn.github.io (master)
$ git blame _config.yml | grep 'collections:'
a88b4eac (Anish Athalye 2020-01-17 15:26:30 -0500 18) collections:
```

```

Administrator@DESKTOP-6MF70N6 MINGW64 ~/missing-semester-cn.github.io (master)
$ git show a88b4eac
commit a88b4eac326483e29bdac5ee0a39b180948ae7fc
Author: Anish Athalye <me@anishathalye.com>
Date:   Fri Jan 17 15:26:30 2020 -0500

    Redo lectures as a collection

diff --git a/2020/index.html b/2020/index.html
deleted file mode 100644
index 153ddc8..0000000
--- a/2020/index.html
+++ /dev/null
@@ -1,5 +0,0 @@
-----
- layout: redirect
- redirect: /
- title: Missing Semester 2020
-----
diff --git a/2019/automation.md b/_2019/automation.md
similarity index 100%
rename from 2019/automation.md
rename to _2019/automation.md
diff --git a/2019/backups.md b/_2019/backups.md
similarity index 100%
rename from 2019/backups.md
rename to _2019/backups.md
diff --git a/2019/command-line.md b/_2019/command-line.md
similarity index 100%
rename from 2019/command-line.md
rename to _2019/command-line.md
diff --git a/2019/course-overview.md b/_2019/course-overview.md
similarity index 100%
rename from 2019/course-overview.md
rename to _2019/course-overview.md
diff --git a/2019/data-wrangling.md b/_2019/data-wrangling.md
similarity index 100%
rename from 2019/data-wrangling.md
rename to _2019/data-wrangling.md
diff --git a/2019/dotfiles.md b/_2019/dotfiles.md
similarity index 100%
rename from 2019/dotfiles.md
rename to _2019/dotfiles.md
diff --git a/2019/editors.md b/_2019/editors.md
similarity index 100%
rename from 2019/editors.md
rename to _2019/editors.md
diff --git a/2019/files/example.c b/_2019/files/example.c
similarity index 100%
rename from 2019/files/example.c
rename to _2019/files/example.c
diff --git a/_2019/index.html b/_2019/index.html
new file mode 100644
index 0000000..a90ce94
--- /dev/null
+++ b/_2019/index.html
@@ -0,0 +1,48 @@
+-----
+ layout: page
+ title: "2019 Lectures"
+ permalink: /2019/
+-----
+
+<p>Click on specific topics below to see lecture videos and lecture notes.</p>
+
+<h1>Tuesday, 1/15</h1>
+<ul>
+  <li><a href="/2019/course-overview/">Course overview</a></li>
+  <li><a href="/2019/virtual-machines/">Virtual machines and containers</a></li>
+  <li><a href="/2019/shell/">Shell and scripting</a></li>
+</ul>
+

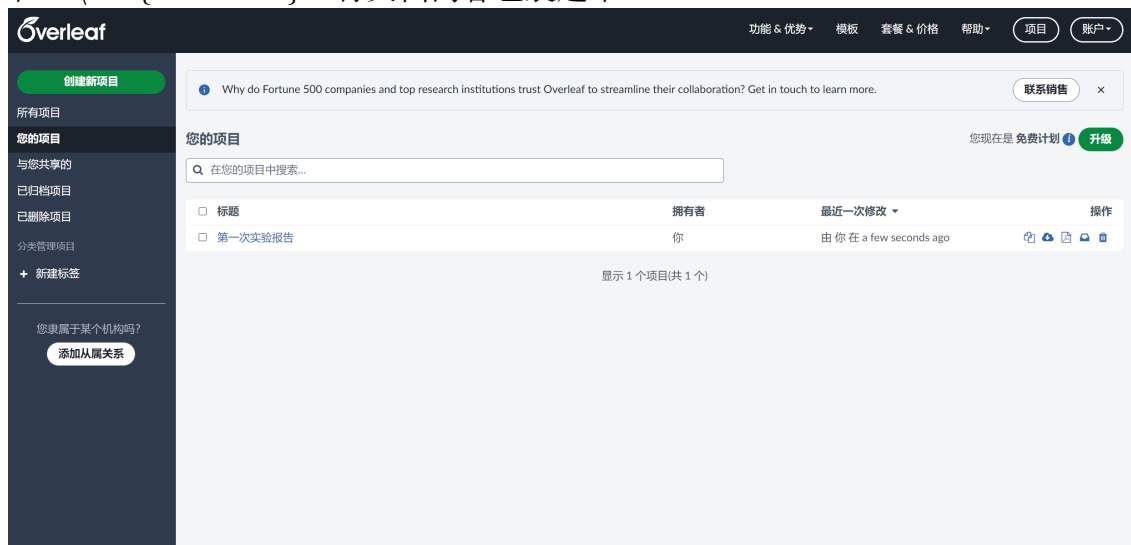
```

可知最后一次修改 `_config.yml` 文件中 `collections:` 行时的提交信息是“Redo lectures as a collection”。

2 LaTeX 文档编辑

2.1 打开 Overleaf 在线网站创建新文档

在开头输入 “\documentclass” 命令以及用 “\begin{document}” 命令和 “\end{document}” 将文档内容包裹起来。



```
1 \documentclass[a4paper, 12pt]{article}
2
3 \begin{document}
4   A sentence of text.
5 \end{document}
```

2.2 使用中文字体

使用 CTeX 宏包。只需要在文档的前导命令部分添加：“\usepackage[UTF8]{ctex}”。最关键的一步，在编译文档的时候使用 xelatex 编译。

```
\usepackage[UTF8]{ctex}
```

设置

编译器

TeX Live 版本

主文档 (main tex)

XeLaTeX

pdfLaTeX

LaTeX

XeLaTeX

LuaLaTeX

main.tex

2.3 添加文章标题

“\maketitle” 命令可以给文档创建标题。

```
\title{第一次实验报告}
\author{杨昕昱 23020007142}
\date{August 2024}

\maketitle
```

2.4 添加章节

将文档分为章 (Chapters)、节 (Sections) 和小节 (Subsections)。输入 “\section{...}” “\subsection{...}” 命令。

```
\section{版本控制(Git)}
```

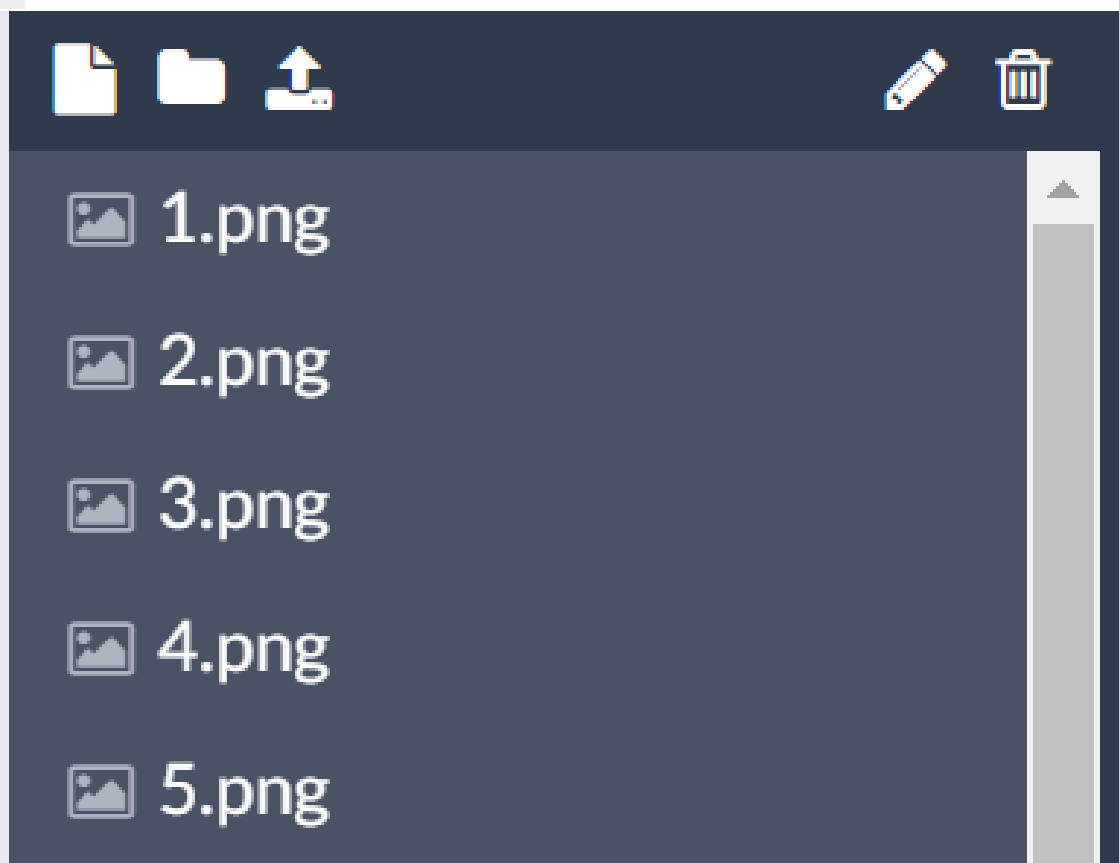
```
\subsection{Git下载安装}
```

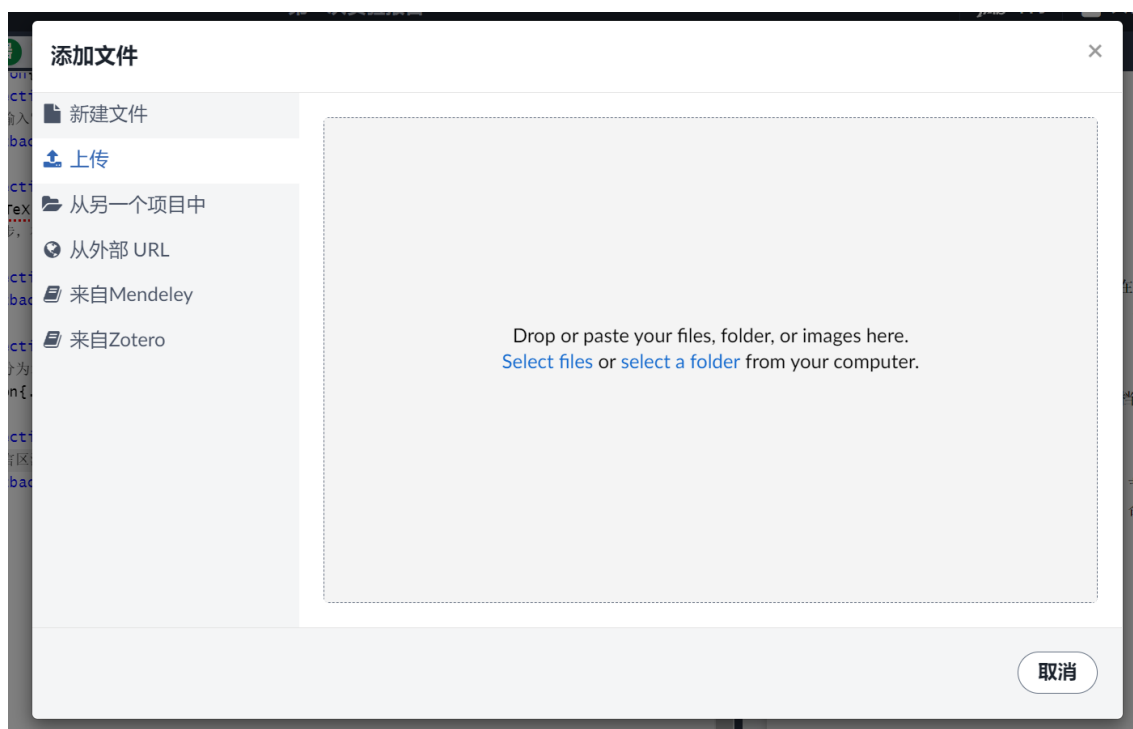
访问Git官方下载网址，下载Windows版本，然后安装。

2.5 添加图片

在导语言区添加宏包 “\usepackage{graphicx}”。首先，上传图片与文档在同一目录下，然后在正文中插入 “\includegraphics[]{}”，其中，{} 内是图片名称，[] 内是图片规格。

```
\includegraphics [width=15cm] {1.png}
```





2.6 特殊字符表示

在使用“# \$ % ^ & _ { } ~ \”这些特殊字符时，要在字符前添加反斜杠进行转义。如“\# \\$ \% \^ \& _ \{ \} \~”。注意，反斜杠不能通过反斜杠转义（不然就变成了换行了），使用“\textbackslash”命令代替。使用如下：

```

\subsection{配置ssh keys}
终端执行“ssh-keygen -t rsa”，生成ssh。再输入“cat \~{}/.ssh/id\_rsa.pub”命令查看公钥，复制进入已经注册好的GitHub平台。

\section{LaTeX文档编辑}
\subsection{打开Overleaf在线网站创建新文档}
在开头输入“\textbackslash documentclass”命令以及用“\textbackslash begin\{document\}”命令和“\textbackslash end\{document\}”将文档内容包裹起来。

```

2.7 插入公式

可以使用一对 \$ 来启用数学模式，这可以用于撰写行内数学公式。例如 \$1+2=3\$ 的生成效果是 $1 + 2 = 3$ 。

如果是生成带标号的公式，可以使用

```
\begin{equation}
...
\end{equation}。
```

例如：

```
\begin{equation}
1 + 2 = 3
\end{equation}
```

生成的效果为：

$$1 + 2 = 3 \quad (1)$$

2.8 字体效果

命令如下：

```
\textit{words in italics} \\ \textsl{words slanted} \\ \textsc{words in smallcaps} \\
\textbf{words in bold} \\ \texttt{words in teletype} \\ \textsf{sans serif words} \\
\textrm{roman words} \\ \underline{underlined words}
```

效果如下：

words in italics

words slanted

WORDS IN SMALLCAPS

words in bold

words in teletype

sans serif words

roman words

underlined words

2.9 字体大小

命令如下：

```
normal size words \{\tiny tiny words} \{\scriptsize scriptsize words} \{\footnotesize footnotesize words} \{\small small words} \{\large large words} \{\Large Large words} \{\LARGE LARGE words} \{\huge huge words}
```

效果如下：

normal size words

tiny words

scriptsize words

footnotesize words

small words

large words

Large words

LARGE words

huge words

2.10 生成目录

使用“\tableofcontents”在文档中创建目录。通常我们会在标题的后面建立目录。“\newpage”命令会另起一个页面。

```
\maketitle
```

```
\newpage
```

```
\tableofcontents
```

```
\newpage
```

3 实验感悟

在本次实验中，锻炼了我自学和自己解决问题的能力。我积极运用老师提供的资料，并主动在视频网站上搜索相关视频教学进行观看，这让我能跟随完成大部分实例操作。而在某些操作出现问题时，我会利用 csdn 或者 ai 大模型进行搜索，找到自己出现的问题并解决。比如在编辑 LaTeX 文档时，我添加了宏包也无法编译中文，这时我通过搜索才知道，要在 Overleaf 菜单中，将编译器切换成 xelatex，因为 xelatex 是支持中文字体的。

希望在接下来的几节课中，我能提高自己的学习效率，高效准确地完成学习目标。

4 GitHub 链接

HTTPS:<https://github.com/iris-inu/first.git>

SSH:`git@github.com:iris-inu/first.git`

GitHub CLI:`gh repo clone iris-inu/first`