

# 实验报告

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## 1. 用中文写LaTeX文档。

使用CJKutf8包,并将输入内容用`\begin{CJK*}{UTF-8}{gbsn}` 和`\end{CJK*}` 包裹

```
\documentclass{article}
```

```
\usepackage{CJKutf8}
```

```
\begin{document}
```

```
\begin{CJK*}{UTF8}{gbsn}
```

在此输入

```
\end{CJK*}
```

```
\end{document}
```

## 2. 为文章添加标题。

`\maketitle`可为文章生成标题。

```
\documentclass{article}
```

```
\title{} %标题
```

```
\author{} %作者
```

```
\date{} %日期
```

```
\begin{document}
```

```
\maketitle %输出标题
```

```
\end{document}
```

### 3. 列表。

```
\begin{}
```

```
\item...
```

```
\end{}
```

花括号中可填`enumerate`和`itemize`等参数，`enumerate`会为列表自动编号，而`itemize`不会有编号。

```
\documentclass{article}
```

```
\begin{document}
```

```
\begin{enumerate}
```

```
\item abc
```

```
\item bcd
```

```
\item cde
```

```
\end{enumerate}
```

```
\end{document}
```

1. abc

2. bcd

3. cde

```
\documentclass{article}
```

```
\begin{document}
```

```
\begin{itemize}
```

```
\item abc
```

```
\item bcd
```

```
\item cde
```

```
\end{itemize}
```

```
\end{document}
```

• abc

• bcd

• cde

#### 4. 引用环境

`quote`用于引用较短的文字，首行不缩进；`quotation`用于引用若干段文字，首行缩进

```
\documentclass{article}
\usepackage{graphicx}

\begin{document}
```

```
I say:
\begin{quote}
    Good morning !
\end{quote}
\end{document}
```

I say:

Good morning !

```
\documentclass{article}
\usepackage{graphicx}

\begin{document}

Holy Writ:
\begin{quotation}
    In the beginning, God created the heavens and the earth. The earth was without
    form and void, and darkness was over the face of the deep. And the Spirit of God
    was hovering over the face of the waters.

    And God said, "Let there be light," and there was light. And God saw that the
    light was good. And God separated the light from the darkness.

    God called the light Day, and the darkness he called Night. And there was
    evening and there was morning, the first day. And God said, "Let there be an
    expanse in the midst of the waters, and let it separate the waters from the
    waters."

    And God made the expanse and separated the waters that were under the expanse
    from the waters that were above the expanse. And it was so. And God called the
    expanse Heaven. And there was evening and there was morning, the second day.
\end{quotation}
\end{document}
```

Holy Writ:

In the beginning, God created the heavens and the earth. The earth was without form and void, and darkness was over the face of the deep. And the Spirit of God was hovering over the face of the waters.

And God said, "Let there be light," and there was light. And God saw that the light was good. And God separated the light from the darkness.

God called the light Day, and the darkness he called Night. And there was evening and there was morning, the first day. And God said, "Let there be an expanse in the midst of the waters, and let it separate the waters from the waters."

And God made the expanse and separated the waters that were under the expanse from the waters that were above the expanse. And it was so. And God called the expanse Heaven. And there was evening and there was morning, the second day.

## verse 用于排版诗歌

```
蜀道难
\begin{quotation}
    噫吁嚱，危乎高哉！蜀道之难，难于上青天！蚕丛及鱼凫，开国何茫然！尔来四万八千岁，不与秦塞通人烟。西当太白有鸟道，可以横绝峨眉巅。地崩山摧壮士死，然后天梯石栈相钩连。上有六龙回日之高标，下有冲波逆折之回川。黄鹤之飞尚不得过，猿猱欲度愁攀援。青泥何盘盘，百步九折萦岩峦。扞参历井仰胁息，以手抚膺坐长叹。
\end{quotation}
```

### 蜀道难

噫吁，危乎高哉！蜀道之难，难于上青天！蚕丛及鱼凫，开国何茫然！尔来四万八千岁，不与秦塞通人烟。西当太白有鸟道，可以横绝峨眉巅。地崩山摧壮士死，然后天梯石栈相钩连。上有六龙回日之高标，下有冲波逆折之回川。黄鹤之飞尚不得过，猿猱欲度愁攀援。青泥何盘盘，百步九折萦岩峦。扞参历井仰胁息，以手抚膺坐长叹。

## 5. 对齐环境

center、flushleft 和flushright 环境分别用于生

成居中、左对齐和右对齐的文本环境。

```
\documentclass{article}
```

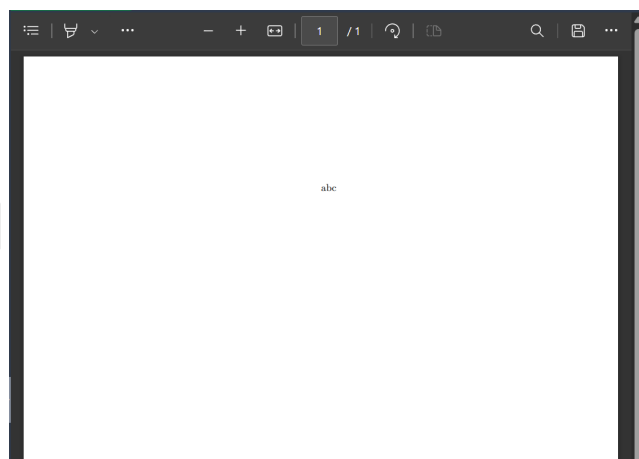
```
\begin{document}
```

```
\begin{center}
```

```
abc
```

```
\end{center}
```

```
\end{document}
```



## 6. 代码环境

verbatim用于输出代码。

```
\documentclass{article}
```

```
\begin{document}
```

```
\begin{verbatim}
```

```
#include <iostream>
```

```
int main()
```

```
{  
std::cout << "Hello, world!"<< std::endl;  
return 0;  
}
```

```
\end{verbatim}
```

```
\end{document}
```

```
#include <iostream>  
  
int main()  
{  
std::cout << "Hello, world!"<< std::endl;  
return 0;  
}
```

## 7. 插入图片

LaTeX本身不支持插入图片功能，需要使用graphicx宏包。

```

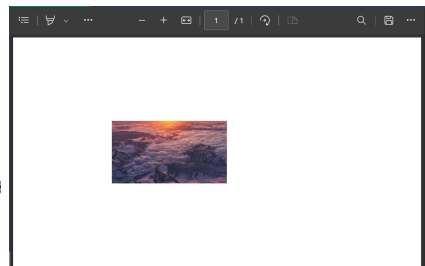
\documentclass{article}
\usepackage{graphicx}

\begin{document}

\includegraphics[width=0.5\linewidth]{image.png}
%中括号 [] 中的参数调整图像缩放

\end{document}

```



## 8. 字体

常用的字体

`\ttfamily` `\texttt{...}` 等宽字体

`\mdseries` `\textmd{...}` 正常粗细

`\bfseries` `\textbf{...}` 粗体

`\em` `\emph{...}` 强调, 斜体

`\texttt{等宽字体 }`

`\textmd{正常粗细 }`

`\textbf{粗体 }`

`\emph{强调}`

`{\ttfamily等宽字体 }`

`{\mdseries正常粗细 }`

`{\bfseries粗体 }`

`{\em强调}`

等宽字体 正常粗细 **粗体** 强调  
等宽字体 正常粗细 **粗体** 强调

## 9. 字号

常用字号

`\tiny`

`\scriptsize`

`\footnotesize`

<code>\small</code>	
<code>\normalsize</code>	
<code>\large</code>	
<code>\Large</code>	
<code>\LARGE</code>	
<code>\huge</code>	
<code>\Huge</code>	
<code>{\tiny abc}</code>	abc
<code>{\scriptsize abc}</code>	abc
<code>{\footnotesize abc}</code>	abc
<code>{\small abc}</code>	abc
<code>{\normalsize abc}</code>	abc
<code>{\large abc}</code>	abc
<code>{\Large abc}</code>	abc
<code>{\LARGE abc}</code>	abc
<code>{\huge abc}</code>	abc
<code>{\Huge abc}</code>	abc

## 10. git新建仓库

用git init命令把当前文件夹创建为仓库

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit
$ git init
Initialized empty Git repository in D:/0/系统开发基础/mygit/.git/
```

git init + 文件夹名称 会创建一个新的文件夹作为仓库。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git init learn_git
Initialized empty Git repository in D:/0/系统开发基础/mygit/learn_git/.git/

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ cd learn_git

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit/learn_git (master)
$
```

## 11. 添加和提交文件

git status 查看仓库状态。仓库中工作区文件为红色。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
  1.txt
  2.txt

nothing added to commit but untracked files present (use "git add" to track)
```

git add 添加到暂存区。暂存区文件会被标记为绿色。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git add 1.txt

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
  new file:   1.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
  2.txt
```



git commit 提交。在git commit后添加-m "...”参数，输入提交信息。如果不加参数，会直接进入vim编辑界面输入提交信息。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git add 1.txt

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   1.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        2.txt
```

## 12. 查看提交记录。

git log能查看提交记录。

```
$ git log
commit e7ca813ee62808bfe07526a1437bda6a02dfa8dc (HEAD -> master)
Author: dai <23020007013dqz@stu.ouc.edu.cn>
Date:   Tue Sep 10 16:08:49 2024 +0800

    第一次提交
```

添加参数--oneline查看简洁的提交信息。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git log --oneline
e7ca813 (HEAD -> master) 第一次提交
```

## 13. 回退版本。

git reset命令可以回退版本。首先用git log查看提交信息。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git log --oneline
f6e3f62 (HEAD -> master) 第三次
c787a3c 第二次
7351cf3 第一次
```

根据版本号回退到需要的版本

```

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git reset c787a3c

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        3.txt

nothing added to commit but untracked files present (use "git add" to track)

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git log --oneline
c787a3c (HEAD -> master) 第二次
7351cf3 第一次

```

#### 14. 查看差异。

git diff 能查看差异，比较文件的文件的内容。

```

diff --git a/3.txt b/3.txt
index 190a180..1e6fd03 100644
--- a/3.txt
+++ b/3.txt
@@ -1,1 @@
-123
+444

```

#### 15. 删除文件。首先删除工作区文件，此时git status查看状态会提示文件已删除。

```

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    1.txt

no changes added to commit (use "git add" and/or "git commit -a")

```

git add删除暂存区文件，git commit删除库中文件。

```

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git add .

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git commit -m "delete 1.txt"
[master e97626b] delete 1.txt
1 file changed, 1 deletion(-)
delete mode 100644 1.txt

```

## 16. gitignore忽略文件。

创建.gitignore并在文件中输入要忽略的文件名。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit
$ git init
Initialized empty Git repository in D:/0/系统开发基础/mygit/.git/

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        1.txt
        password.txt

nothing added to commit but untracked files present (use "git add" to track)

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ echo password.txt > .gitignore

a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/mygit (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .gitignore
        1.txt

nothing added to commit but untracked files present (use "git add" to track)
```

## 17. 配置ssh。

生成ssh key。

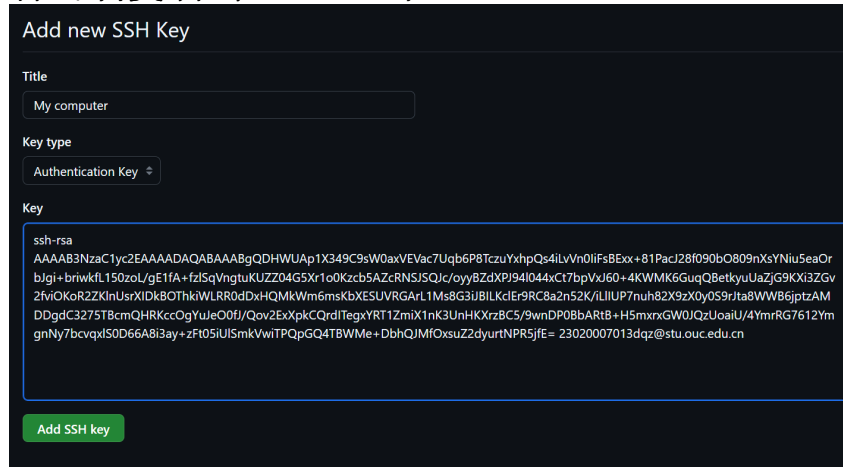
```
a@LAPTOP-N5IG2QMN MINGW64 ~
$ ssh-keygen -t rsa -C "23020007013dqz@stu.ouc.edu.cn"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/a/.ssh/id_rsa):
Created directory '/c/Users/a/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/a/.ssh/id_rsa
Your public key has been saved in /c/Users/a/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:gGyfl1y7UBwFdUv8Mh18bZQxmjbAPnJP8fKpj4UD5fVo 23020007013dqz@stu.ouc.edu.cn
The key's randomart image is:
+---[RSA 3072]-----+
|
| .ooo+.+=o|
| . . . = B.o+|
| + . ..O +.o|
| . . o oo. * *+|
|   o S.o...+=|
|   o ...o .oE|
|   .o ..+ |
|   . +.. |
|   ... |
+---[SHA256]-----+
```

## 18. 在GitHub上添加SSH key

打开ssh公钥。

```
a@LAPTOP-N5IG2QMN MINGW64 ~  
$ cd .ssh  
$ cat id_rsa.pub  
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDHwUAp1X349C9sW0axVEVac7Uqb6P8TczuYxhpQs4iLvVn0IIfsBExx+81PacJ28f090b0809nXsYNiuSeaOr  
bJgi+brwKfL150zoL/gE1fA+fzISqVngtuKUZZ04G5Xr1o0Kzcb5AZcRNSJSQJc/oyyBZdXPJ94l044xct7bpVxj60+4KWMK6GuqQBetkyuUazjG9KXi3ZGv  
2fviOKoR2ZKlnUstrXIDk80ThkiMLRR0dDxHQmKwM6msKbXESUVRGArl1Ms8G3jBILKclEr9RC8a2n52K/iLIUP7nuh82X9zX0y0S9jrtaBWWB6jptzAM  
DDgdC3275TbcmQHRKccOgYUleO0fJ/Qov2ExXpkCQrdITegxYRT1ZmiX1nK3UnHKXrzBC5/9wnDP08bARtB+H5mrxGW0JQzUoaiU/4YmrRG7612Ym  
gnNly7bcvqxlS0D66A8i3ay+zFt05iULSmkVwITPQpGQ4TBWMe+DbhQJMI0XsuZ2dyurtNPR5jFE= 23020007013dqz@stu.ouc.edu.cn
```

将公钥复制到GitHub中。



Add new SSH key

Title  
My computer

Key type  
Authentication Key

Key  
ssh-rsa  
AAAAB3NzaC1yc2EAAAADAQABAAQGDHwUAp1X349C9sW0axVEVac7Uqb6P8TczuYxhpQs4iLvVn0IIfsBExx+81PacJ28f090b0809nXsYNiuSeaOr  
bJgi+brwKfL150zoL/gE1fA+fzISqVngtuKUZZ04G5Xr1o0Kzcb5AZcRNSJSQJc/oyyBZdXPJ94l044xct7bpVxj60+4KWMK6GuqQBetkyuUazjG9KXi3ZGv  
2fviOKoR2ZKlnUstrXIDk80ThkiMLRR0dDxHQmKwM6msKbXESUVRGArl1Ms8G3jBILKclEr9RC8a2n52K/iLIUP7nuh82X9zX0y0S9jrtaBWWB6jptzAM  
DDgdC3275TbcmQHRKccOgYUleO0fJ/Qov2ExXpkCQrdITegxYRT1ZmiX1nK3UnHKXrzBC5/9wnDP08bARtB+H5mrxGW0JQzUoaiU/4YmrRG7612Ym  
gnNly7bcvqxlS0D66A8i3ay+zFt05iULSmkVwITPQpGQ4TBWMe+DbhQJMI0XsuZ2dyurtNPR5jFE= 23020007013dqz@stu.ouc.edu.cn

Add SSH key

## 19. 克隆远程仓库

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础  
$ git clone git@github.com:asd279/myrepo.git  
Cloning into 'myrepo'...  
The authenticity of host 'github.com (20.205.243.166)' can't be established.  
ED25519 key fingerprint is SHA256:+DiY3wvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCoqU.  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.  
warning: You appear to have cloned an empty repository.
```

## 20. 关联远程仓库。

```
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/myrepo (master)  
$ git remote add origin git@github.com:asd279/myrepo.git  
  
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/myrepo (master)  
$ git branch -M main  
  
a@LAPTOP-N5IG2QMN MINGW64 /d/0/系统开发基础/myrepo (main)  
$ git push -u origin main  
To github.com:asd279/myrepo.git
```

感悟：LaTeX 能够生成非常高质量、精美的文档，无论是数学公式、复杂的图表还是参考文献的排版，都显得十分专业和规范，让人惊叹于它在学术和技术文档排版上的强大能力。Git 使我深刻认识到版本控制在软件开发和文档管理等领域的关键作

用。它可以跟踪每一次的修改，让你随时可以查看历史版本、恢复到之前的某个状态，这对于防止数据丢失和管理项目的演进过程至关重要。

<https://github.com/asd279/myrepo>