

第一周学习报告

1. Ctrl+d 再按 y : ipython (显示语法高亮) 和 python 之间的转换

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ ipython
Python 3.12.7 | packaged by Anaconda, Inc. | (main, Oct 4 2024, 13:17:27) [MSC v.1929 64 bit (AMD64)]
Type 'copyright', 'credits' or 'license' for more information
IPython 8.27.0 -- An enhanced Interactive Python. Type '?' for help.

In [1]: print('hello')
hello

In [2]: python
-----
NameError                                Traceback (most recent call last)
Cell In[2], line 1
----> 1 python

NameError: name 'python' is not defined

In [3]:
Do you really want to exit ([y]/n)? y

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ python
Python 3.12.7 | packaged by Anaconda, Inc. | (main, Oct 4 2024, 13:17:27) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

2. 新建目录命名 repo:mkdir repo

```
>>> quit()

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ mkdir repo

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ ls
「开始」菜单@          'My Documents'@          PrintHood@
AppData/              NetHood@                  Recent@
'Application Data'@    NTUSER.DAT                repo/
Contacts/              ntuser.dat.LOG1           Searches/
Cookies@              ntuser.dat.LOG2           SendTo@
Documents/             NTUSER.DAT{d26d4766-be87-11ee-9ef5-fcb0delb6682}.TM.blf  stata/
Downloads/            NTUSER.DAT{d26d4766-be87-11ee-9ef5-fcb0delb6682}.TM.Container000000000000000001.regtrans-ms  Templates@
Favorites/            NTUSER.DAT{d26d4766-be87-11ee-9ef5-fcb0delb6682}.TM.Container000000000000000002.regtrans-ms  TOSHIBA/
Links/                ntuser.ini                Videos/
'Local Settings'@     OneDrive/                 'WPS Cloud Files'/
Music/                Pictures/                  WPSDrive/

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ cd repo

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ code.
bash: code.: command not found

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$
```

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ cd repo

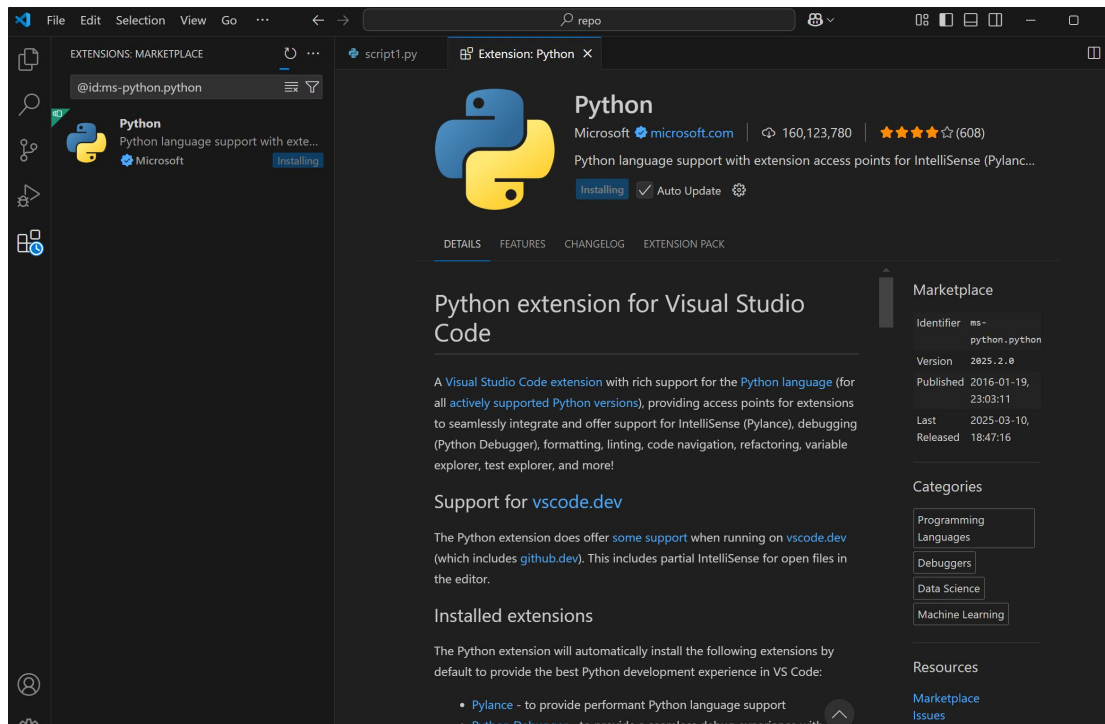
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ code.
bash: code.: command not found

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ cd repo
bash: cd: repo: No such file or directory

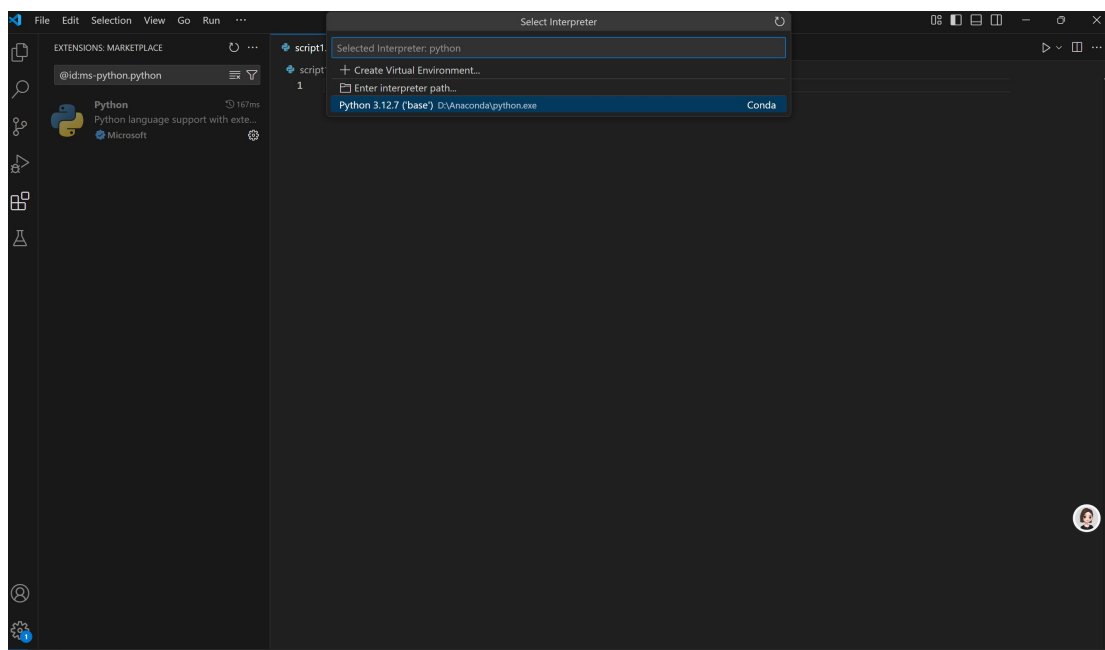
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ code .

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$
```

3. 安装扩展 python



4. 可以在此处切换环境



5. 运行代码：

①在 vs code 文本编辑器中写代码并保存

```
3 script1.py > ...
4 # 生成示例数据
5 data = {
6     'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Eve', np.nan],
7     'Age': [25, 30, np.nan, 35, 22, 40],
8     'Salary': [50000, 60000, 70000, np.nan, 55000, 80000],
9     'Department': ['HR', 'IT', 'Finance', 'IT', 'HR', 'Finance']
10 }
11
12 df = pd.DataFrame(data)
13
14 # 数据清洗: 处理缺失值
15 # 填充年龄列的缺失值为年龄的平均值
16 df['Age'].fillna(df['Age'].mean(), inplace=True)
17
18 # 删除工资列有缺失值的行
19 df.dropna(subset=['Salary'], inplace=True)
20
21 # 删除姓名为缺失值的行
22 df.dropna(subset=['Name'], inplace=True)
23
24 # 数据统计分析
25 # 按部门分组计算平均年龄和平均工资
26 grouped = df.groupby('Department').agg({
27     'Age': 'mean',
28     'Salary': 'mean'
29 })
30
31 print("清洗后的数据: ")
32 print(df)
33 print("\n按部门统计的平均年龄和平均工资:")
34 print(grouped)
```

②回到终端运行

查看是否存在该文件

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ ls
script1.py
```

查看代码，并没有显示，错误原因：未保存代码，保存的快捷键：Ctrl + S
错误：

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ code .

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ ls
script1.py

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ cat script1.py

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ cat script1.py
```

正确：

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ cat script1.py
import pandas as pd
import numpy as np

# 生成示例数据
data = {
    'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Eve', np.nan],
    'Age': [25, 30, np.nan, 35, 22, 40],
    'Salary': [50000, 60000, 70000, np.nan, 55000, 80000],
    'Department': ['HR', 'IT', 'Finance', 'IT', 'HR', 'Finance']
}

df = pd.DataFrame(data)

# 数据清洗：处理缺失值
# 填充年龄列的缺失值为年龄的平均值
df['Age'].fillna(df['Age'].mean(), inplace=True)

# 删除工资列有缺失值的行
df.dropna(subset=['Salary'], inplace=True)

# 删除姓名列有缺失值的行
df.dropna(subset=['Name'], inplace=True)

# 数据统计分析
# 按部门分组计算平均年龄和平均工资
grouped = df.groupby('Department').agg({
    'Age': 'mean',
    'Salary': 'mean'
})

print("清洗后的数据：")
print(df)
print("\n按部门统计的平均年龄和平均工资：")
print(grouped)
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$
```

在终端运行代码：

```
$ python script1.py
C:\Users\胡爽\repo\script1.py:16: FutureWarning: A value is trying to be set on a copy of a DataFrame or Series through chained assignment using an inplace method.
The behavior will change in pandas 3.0. This inplace method will never work because the intermediate object on which we are setting values always be
haves as a copy.

For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method({col: value}, inplace=True)' or df[col] = df[col].method(value)
instead, to perform the operation inplace on the original object.

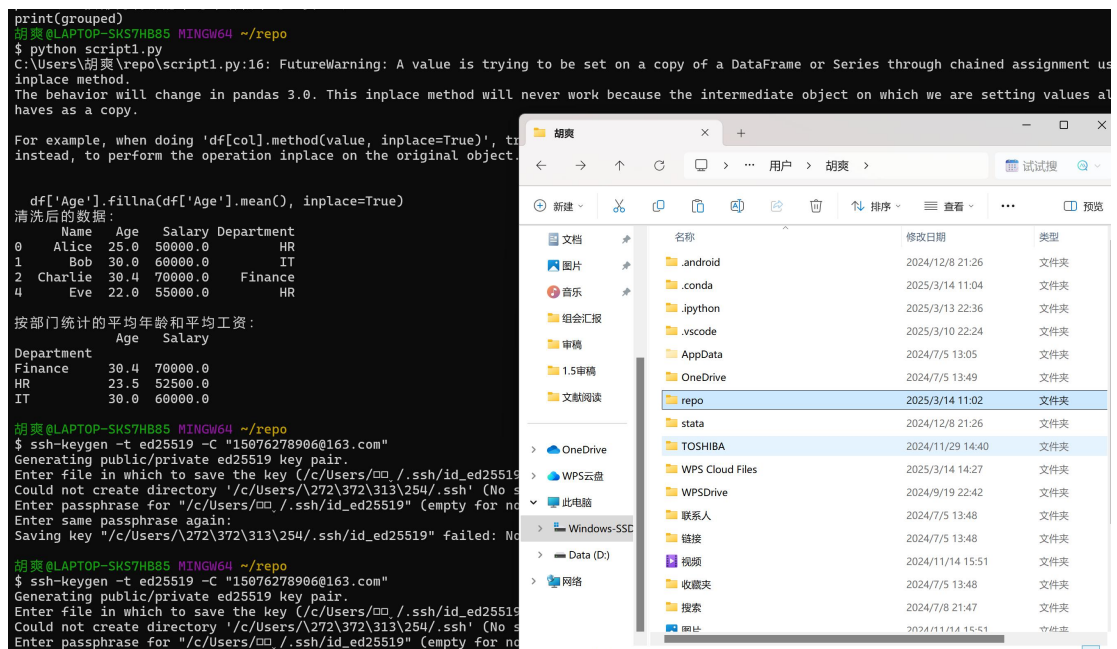
df['Age'].fillna(df['Age'].mean(), inplace=True)
清洗后的数据：
   Name  Age  Salary Department
0  Alice  25.0  50000.0        HR
1   Bob  30.0  60000.0         IT
2  Charlie  30.4  70000.0    Finance
4    Eve  22.0  55000.0        HR

按部门统计的平均年龄和平均工资：
   Department  Age  Salary
Finance      30.4  70000.0
HR          23.5  52500.0
IT          30.0  60000.0
```

6. 生成 SSH 密钥：

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ ssh-keygen -t ed25519 -C "15076278906@163.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/c/Users/胡爽/.ssh/id_ed25519): |
```

出现问题：没有生成文件夹：



借助豆包来解决这个问题，解决办法：

这是中文用户名导致 Git Bash 路径解析异常，按以下步骤解决：

1. 手动创建 .ssh 目录

- 打开文件资源管理器，进入真实用户目录（从报错推测，你的用户目录应为 C:\Users\胡爽）。
- 在该目录下新建文件夹，命名为 .ssh（注意开头的点，代表隐藏文件夹）。

2. 重新生成 SSH 密钥

- 回到 Git Bash 终端，再次执行生成命令：

```
bash ^  
  
ssh-keygen -t ed25519 -C "15076278906@163.com"
```

- 当提示 Enter file in which to save the key 时，直接按 Enter 键（此时会默认使用刚创建的 .ssh 目录）。
- 后续提示输入密码短语（若无密码需求，直接按 Enter 跳过）。

完成后，就能在 C:\Users\胡爽\.ssh 目录下看到生成的密钥文件（id_ed25519 私钥和 id_ed25519.pub 公钥）。

按上述操作仍为解决这个问题，继续问大模型，豆包给出了解决办法：

一、手动指定密钥保存路径

1. 重新执行生成命令：

在 Git Bash 中再次运行生成密钥命令：

```
bash ^  
  
ssh-keygen -t ed25519 -C "15076278906@163.com"
```

2. 输入完整路径：

当提示 Enter file in which to save the key 时，输入完整且正确的路径（注意 Git Bash 中用 / 分隔路径）：

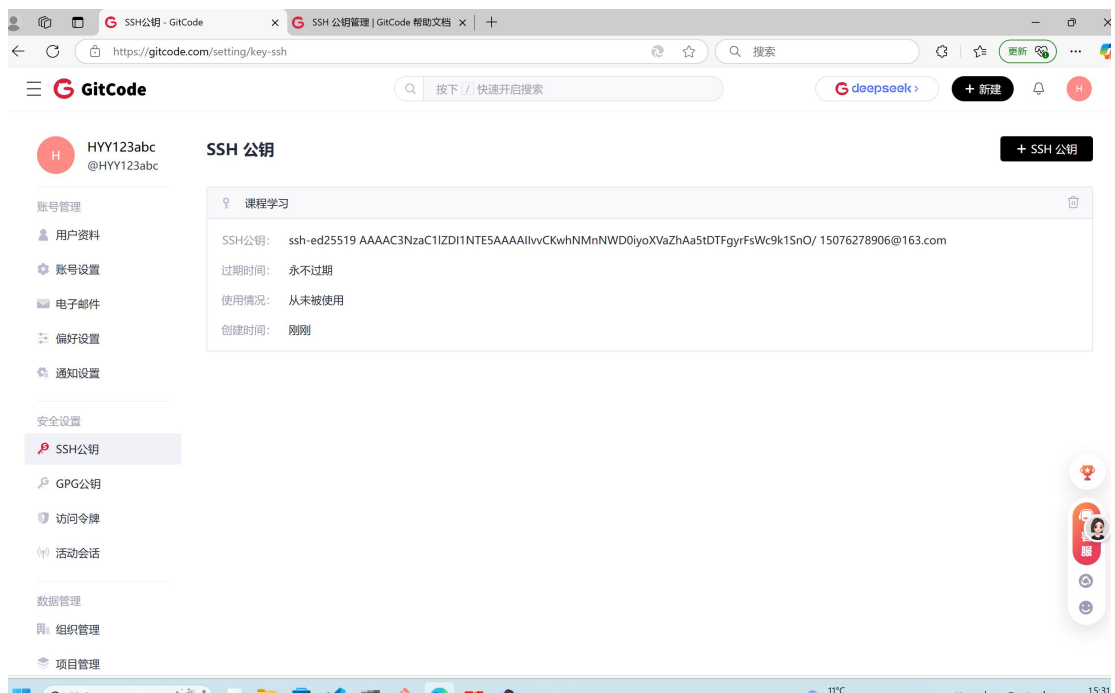
```
plaintext ^  
  
/c/Users/胡爽/.ssh/id_ed25519
```

操作：重启终端，重新输入上述命令，操作成功，在文件夹中生成了两个密钥文件：

```
MINGW64/c/Users/胡爽  X  +  v  
  
胡爽@LAPTOP-SKS7HB85 MINGW64 ~  
$ ssh-keygen -t ed25519 -C "15076278906@163.com"  
Generating public/private ed25519 key pair.  
Enter file in which to save the key (/c/Users/胡爽/.ssh/id_ed25519): /c/Users/胡爽/.ssh/id_ed25519  
Enter passphrase for "/c/Users/胡爽/.ssh/id_ed25519" (empty for no passphrase):  
Enter same passphrase again:  
Your identification has been saved in /c/Users/胡爽/.ssh/id_ed25519  
Your public key has been saved in /c/Users/胡爽/.ssh/id_ed25519.pub  
The key fingerprint is:  
SHA256:VD0we6jRmKRsvZ9qJ+yW1qghS3Jgcrqtydohk/J95I 15076278906@163.com  
The key's randomart image is:  
+--[ED25519 256]--+  
|      . o .+      |  
|     . + +      |  
|    o o o      |  
|   o + * +      |  
|  . = + S o      |  
|.o + = = =      |  
|o. = * . + =      |  
|o = +E = + . .    |  
|=oo. =o+o.        |  
+----[SHA256]-----+  
  
胡爽@LAPTOP-SKS7HB85 MINGW64 ~  
$
```

在 .ssh 中搜索		
预览		
名称	修改日期	类型
id_ed25519	2025/3/14 15:14	文件
id_ed25519.pub	2025/3/14 15:14	PUB 文件

7. 读取密钥里的文本内容输出到终端：cat+id_ed25519. pub
复制公钥的内容，添加到 git code。注意终端里复制点右键，不是 ctrl +c



8. 完成 git code 全局的配置:

```
MINGW64/c/Users/胡爽 x + v
胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ git config --global user.name HYY123abc
git config --global user.email HYY123abc@noreply.gitcode.com
胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$
```

9. 将平台上代码克隆到本地


```
MINGW64/c/Users/胡爽/repc  X  +  v

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ git config --global user.name HYY123abc
git config --global user.email HYY123abc@noreply.gitcode.com

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ cd

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ pwd
/c/Users/胡爽

胡爽@LAPTOP-SKS7HB85 MINGW64 ~
$ cd repo

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ pwd
/c/Users/胡爽/repo

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ git clone git@gitcode.com:HYY123abc/week01.git
Cloning into 'week01'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 0), reused 7 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), 8.75 KiB | 2.92 MiB/s, done.

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ |
```

10. 用 vscode 这个编辑器打开 week01 这个目录

```
胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ code week01/

胡爽@LAPTOP-SKS7HB85 MINGW64 ~/repo
$ |
```

