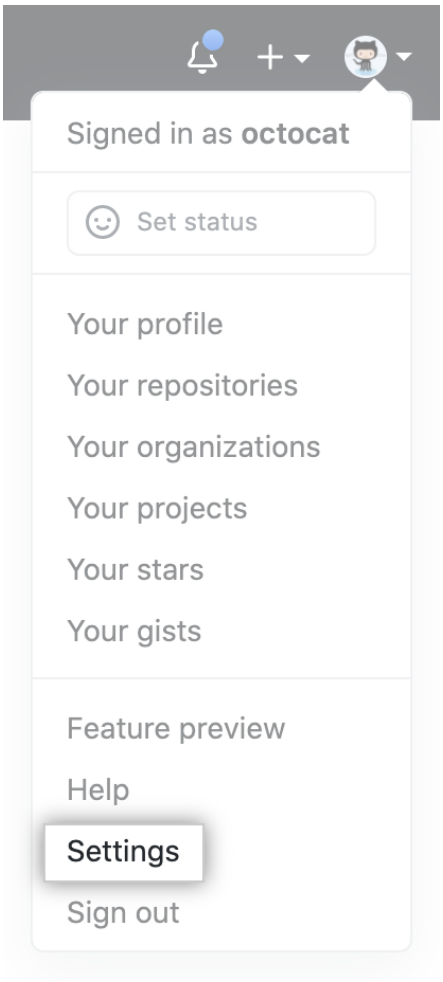
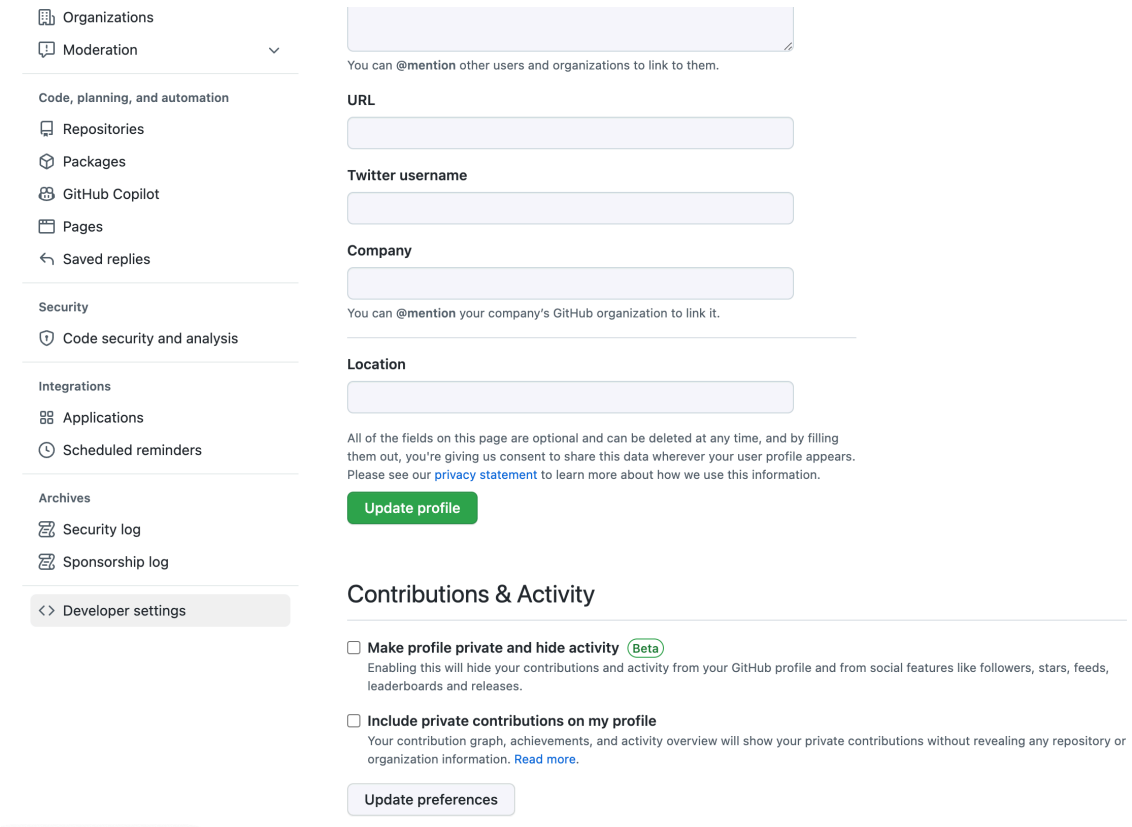
Classwork-1.0: Prepare for GitHub submission

GitHub requires Personal access tokens (PATs) for authentication in git operation. You can create a PAT as followed.

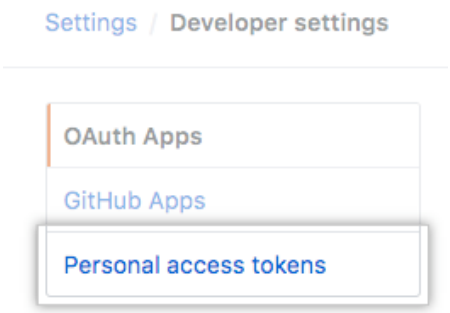
1. In the upper-right corner of any page in GitHub website, click your profile photo, then click Settings.



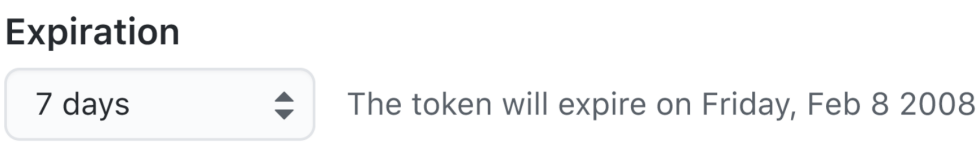
2. In the left sidebar, click Developer settings.



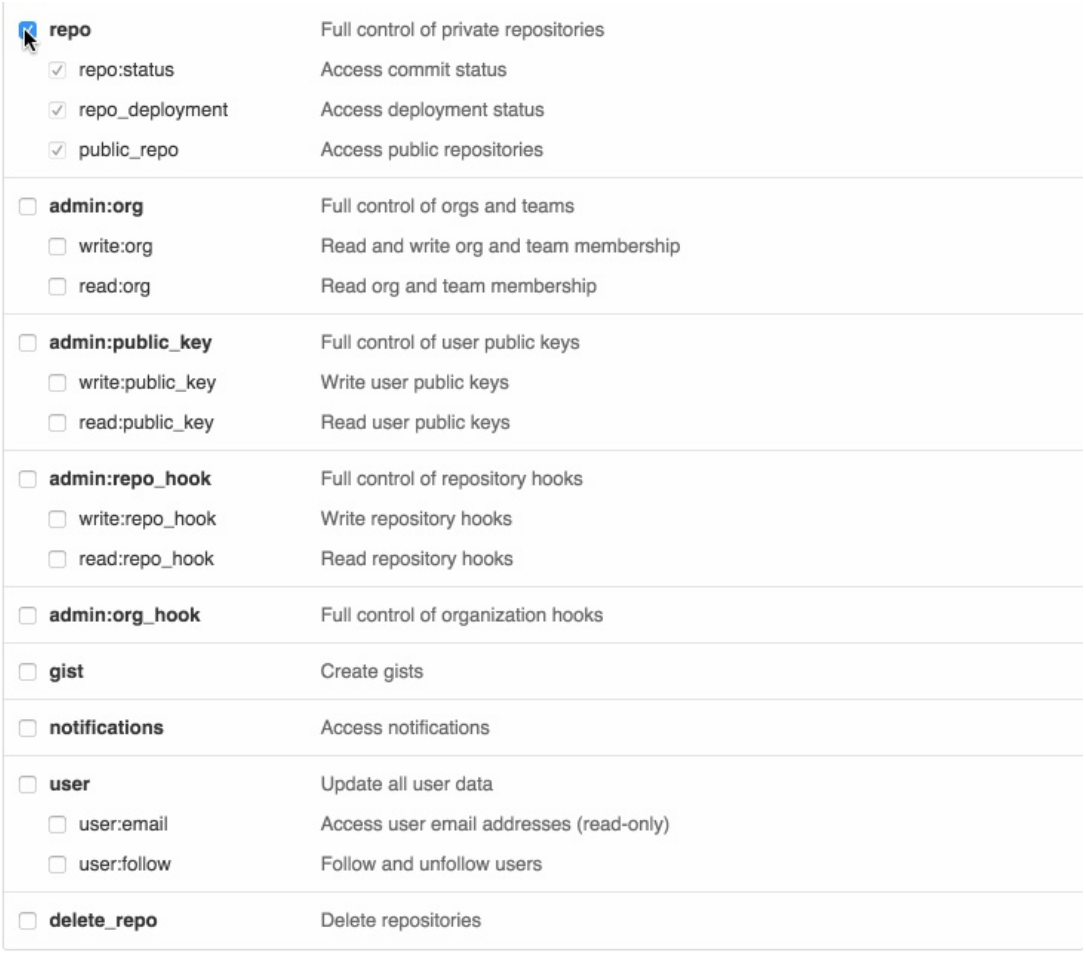
3. In the left sidebar, click Personal access tokens.



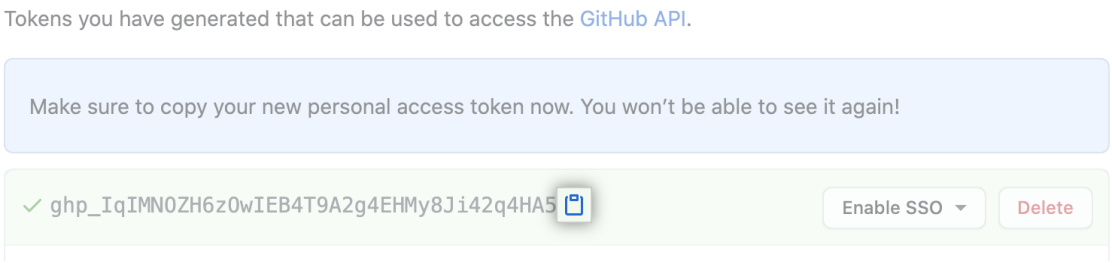
4. Click Generate new token.
5. Give your token a descriptive name.
6. To give your token an expiration, select the Expiration drop-down menu, then click a default or use the calendar picker.



7. Select the scopes, or permissions, you'd like to grant this token. To use your token to access repositories from the command line, select repo.



8. Click Generate token.
9. Store the PAT in a safety location.

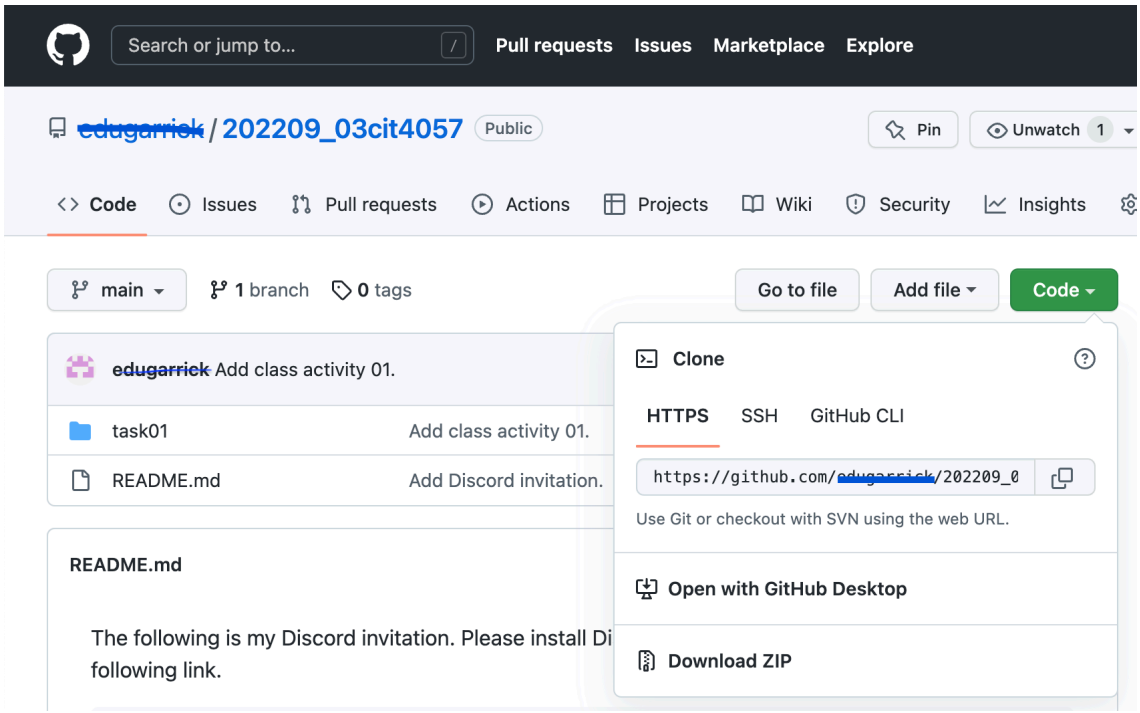


Classwork-1.1 : Clone the repository from GitHub

1. In GitHub, sync your forked repository.
2. In your PC, run the following command to clone the respository to your PC.

```
$ git clone <url>
```

where url is from



3. Make a directory under cw01/src. The directory name is your student id as below.

```
cw01
|_ src
   |_ <your student>
```

Classwork-1.2 : Comment

1. In VSCode, type and save the following program as sumsquare.py.

```python
# 1. Try comment
'''
This program calculates the sum of
square of first N natural
numbers
'''

def squaresum(n) :
    sum = 0
    for i in range(1, n+1) :
        sum = sum + (i * i)
    return sum

def main():
    integerN = 4
    # Try line wrap within parentheses
    print("The sum of square of integer N is ",
        squaresum(integerN))

if __name__ == "__main__":
    main()
```

3. You can run the program successfully.
4. Submit your work to your forked repository. The command is as followed.

```
$ git commit -m "Classwork-1.2." && git push
[main 36f90bd] Include Classword 01.
 1 file changed, 1 insertion(+)
...
Username for 'https://github.com': <your GitHub id>
Password for 'https://<your GitHub id>@github.com': <PAT>
```

Classwork-1.3 : Comparison Operator

1. In VSCode, type and save the following program as findmax.py.

```python
# 1. Try indentation in a block of code
# 2. Try Comparison Operator

def maximum(num1, num2):
    if num1 >= num2:
        return num1
    else:
        return num2

def main():
    number1 = 1000
    number2 = 2919
    print(maximum(number1, number2))

if __name__ == "__main__":
    main()
```

2. You can run the program successfully.
3. Submit your work to your forked repository. The command is as followed.

```
$ git commit -m "Classwork-1.3." && git push
[main 36f90bd] Include Classword 01.
 1 file changed, 1 insertion(+)
...
Username for 'https://github.com': <your GitHub id>
Password for 'https://<your GitHub id>@github.com': <PAT>
```

Classwork-1.4 : Arithmetic operator

1. In VSCode, type and save the following program as simpleinterest.py.

```python
# 1. Try Arithmetic operator
def simple_interest(p,t,r):
    si = (p * t * r)/100
    return si

def main():
    principal = 8
    time = 6
    rate = 8
    print('The principal is', principal)
    print('The time period is', time)
    print('The rate of interest is', rate)
    # Try line wrap within parentheses
    si = simple_interest( principal, time,
                          rate)
    print('The Simple Interest is', si)

if __name__ == "__main__":
    main()
```

2. You can run the program successfully.
3. Submit your work to your forked repository. The command is as followed.

```
$ git commit -m "Classwork-1.4." && git push
[main 36f90bd] Include Classword 01.
 1 file changed, 1 insertion(+)
...
Username for 'https://github.com': <your GitHub id>
Password for 'https://<your GitHub id>@github.com': <PAT>
```

Classwork-1.5: Submit your work by GitHub pull request

1. In the GitHub, create a pull request as shown in class activity 01.

Classwork-1.6 : Extra activity

1. Copy the handbook.txt to your student id directory.
2. In VSCode, run the following

```
pip3 install --upgrade pip
pip3 install pandas
pip3 install matplotlib
pip3 install wordcloud
```

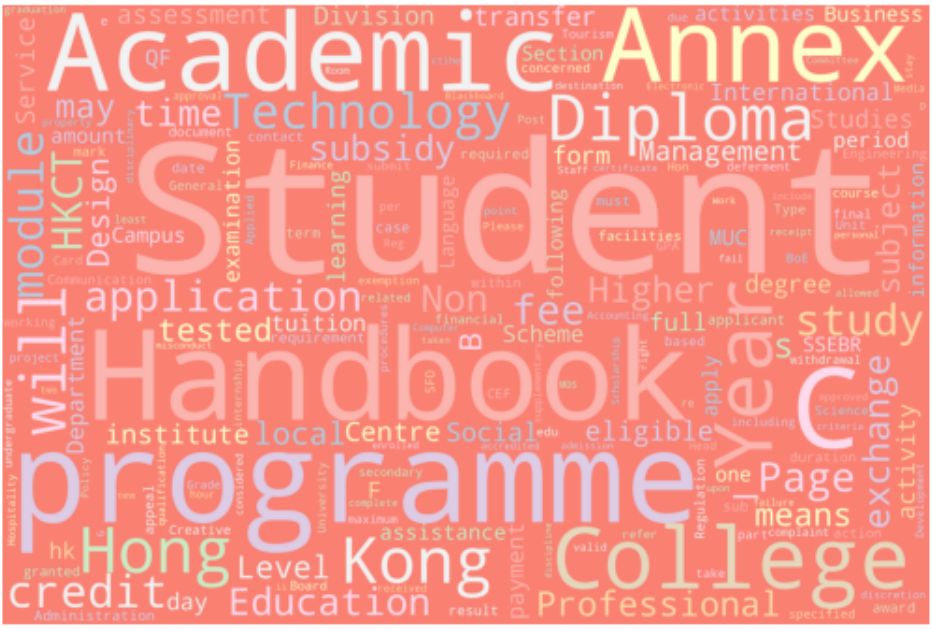
3. In VSCode, type and save the following program as wc_gen.py.

```
# For fun and create Word Cloud.
# from a piece of text.
import pandas as pd
import matplotlib.pyplot as plt
from wordcloud import WordCloud, STOPWORDS

df = pd.read_csv("handbook.txt", sep="  ")
text = " ".join( str(cat) for cat in df.Review)
word_cloud = WordCloud(
        width=3000,
        height=2000,
        random_state=1,
        background_color="salmon",
        colormap="Pastel1",
        collocations=False,
        stopwords=STOPWORDS,
        ).generate(text)

plt.imshow(word_cloud)
plt.axis("off")
plt.show()
```

3. You can run the program successfully and generate the word cloud as below.



4. Submit your work to your forked repository. The command is as followed.

```
$ git commit -m "Classwork-1.6." && git push
[main 36f90bd] Include Classword 01.
 1 file changed, 1 insertion(+)
...
Username for 'https://github.com': <your GitHub id>
Password for 'https://<your GitHub id>@github.com': <PAT>
```