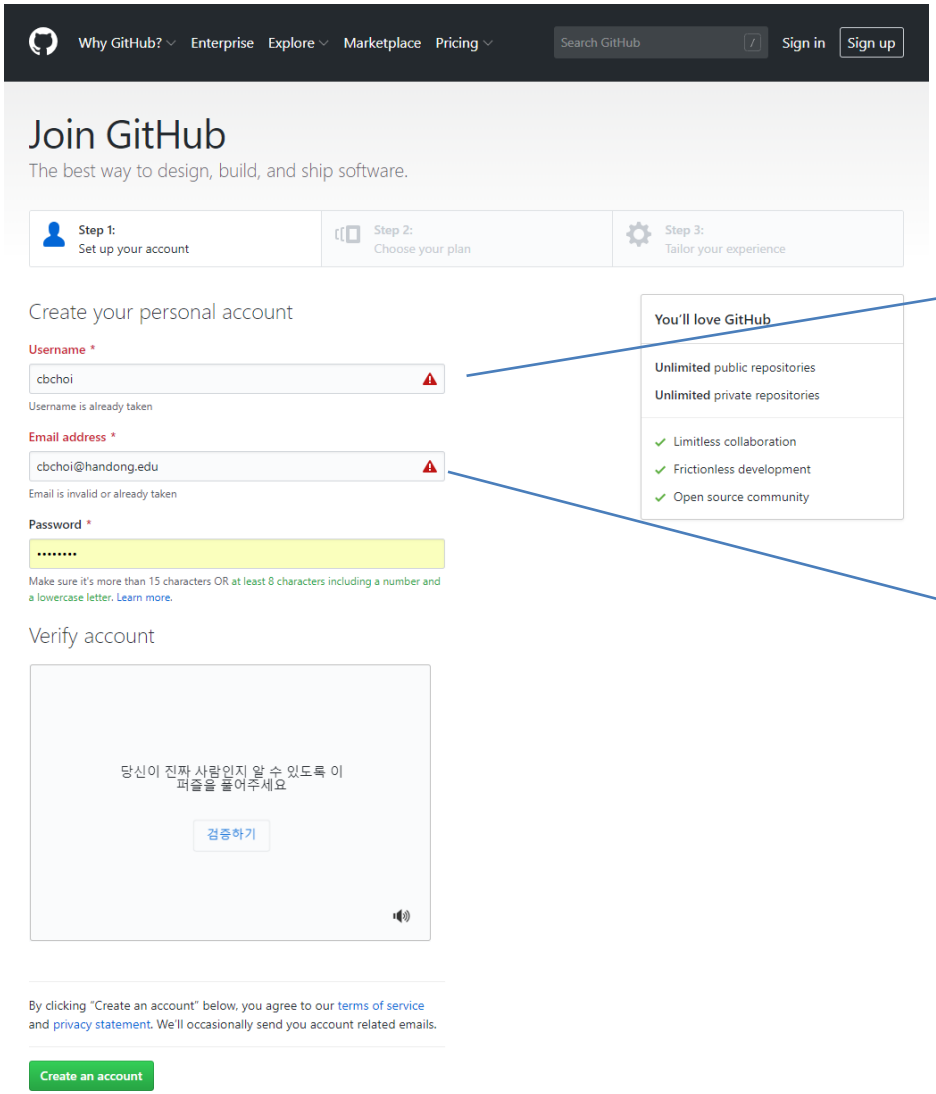
SIT32004
ICT Application Development

Practicum 01

Github.com



User ID
example: cbchoi

Important!!
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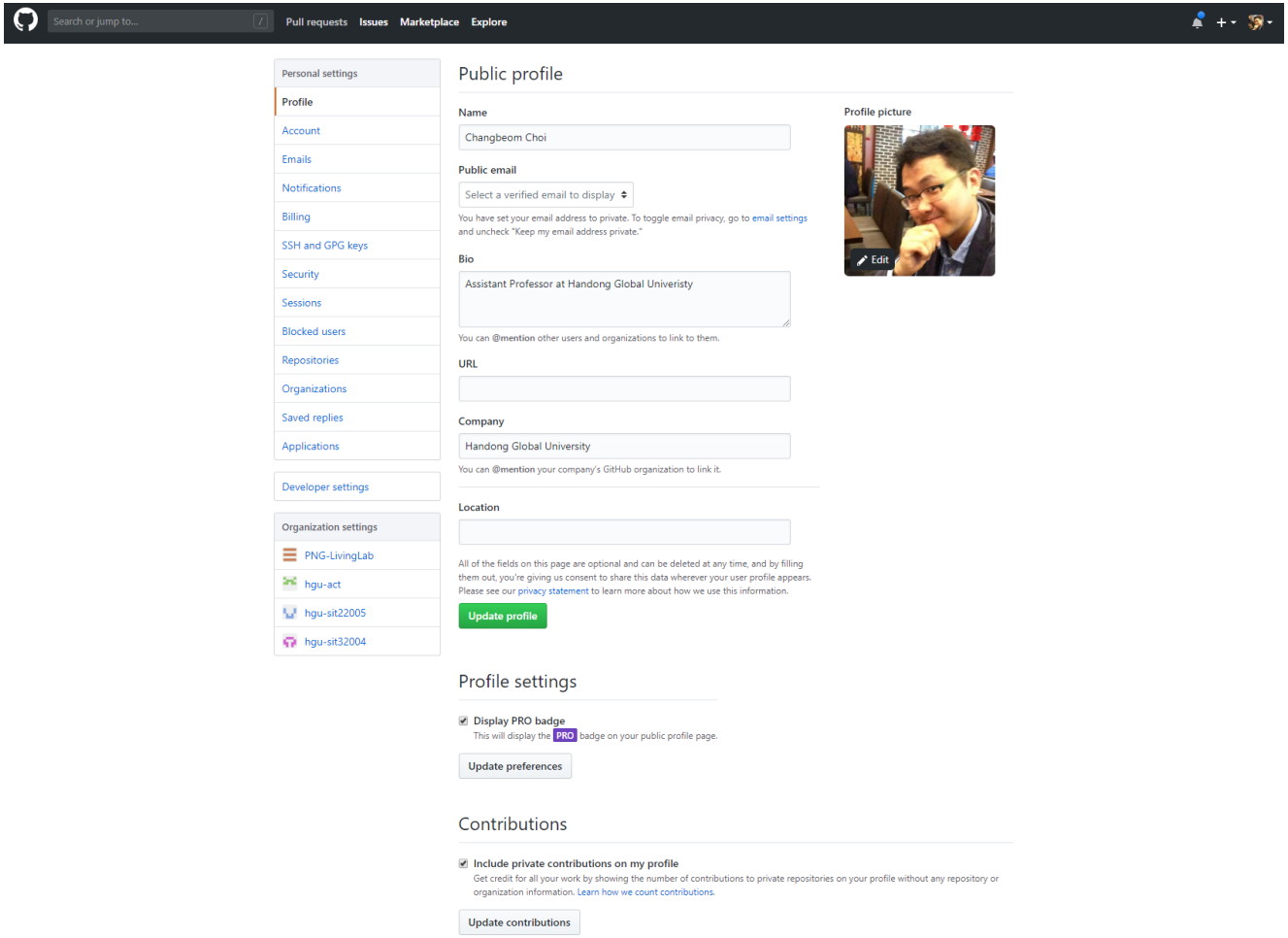

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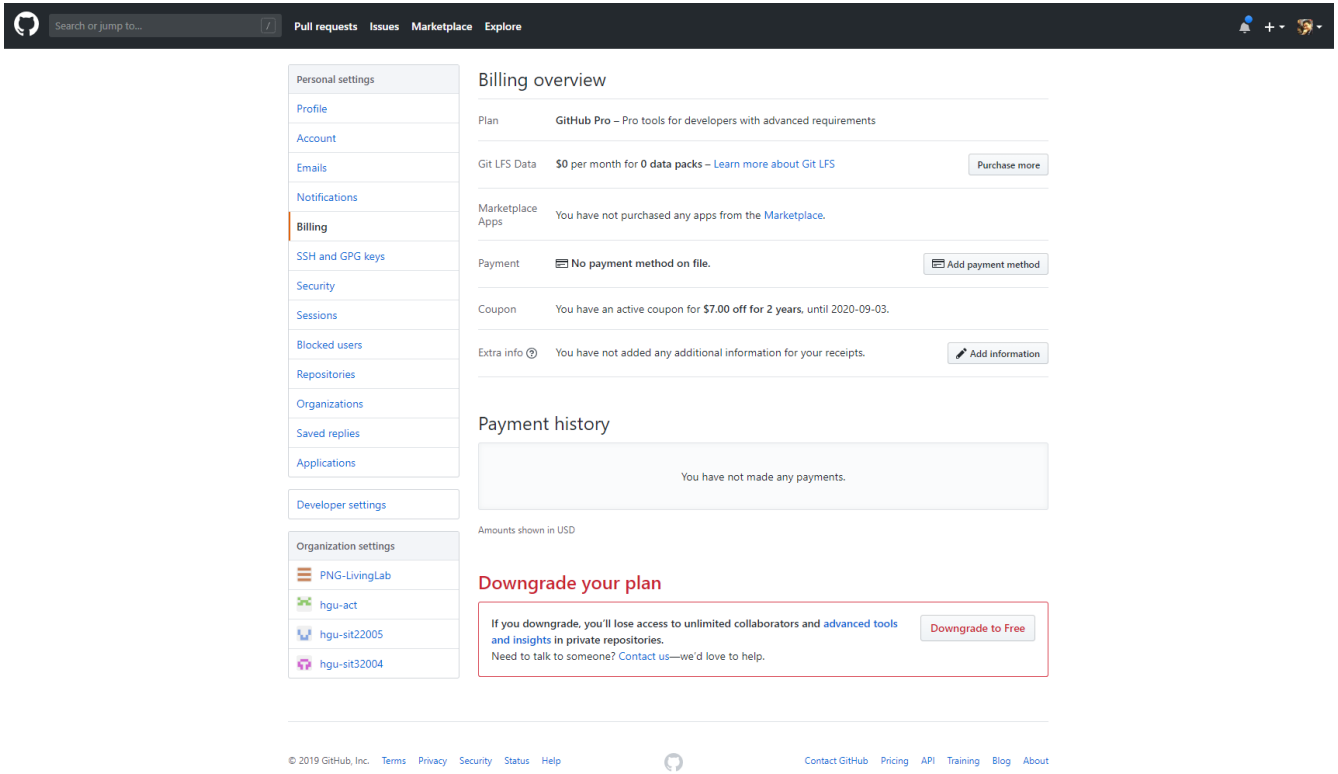


- **Flow of execution**

* Slide Contents are from SIT22001

```
def print_message():
  print (“SIT22001 is fantastic!")
  print (“Programming is so much fun")

def repeat_message():
  print_message()
  print message()

repeat_message()
print (“Done”)
```

Execution begins at the first statement. Statements are executed **one by one, top to bottom.**

Function definitions do not change the flow of execution but only define a function.

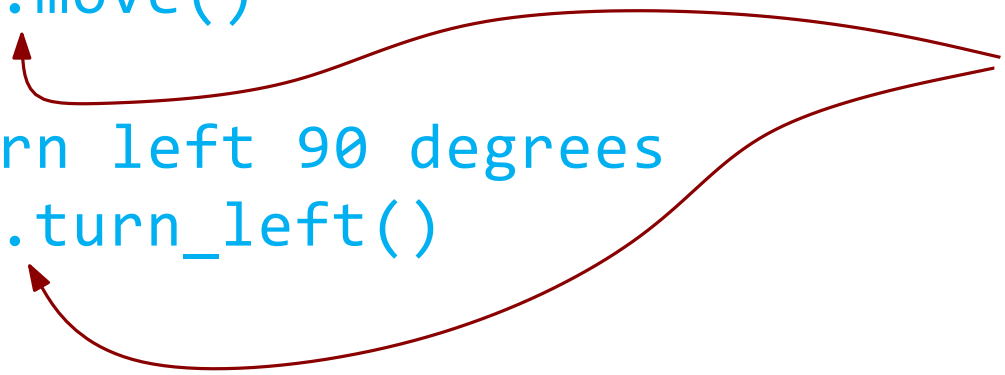
Function calls are like detours in the flow of execution.

Comments

```
# create a robot with one beeper
hubo = Robot(beepers = 1)

# move one step forward
hubo.move()

# turn left 90 degrees
hubo.turn_left()
```



PROBLEM 1: ANALYSIS OF USD-KRW EXCHANGE RATES

Text files, "1994.txt", "1995. txt", ... , and "2009.txt", in a folder, "data" contain the daily USD-KRW exchange rates for 16 years from 1994 to 2009, respectively . The format of each file is:

.....

.....

2009/05/11 0.00080110

.....

The exchange rate is given as USD per KRW.

(Continued)

For data analysis, read all files (16 files) into a single long list of tuples, each consisting of two integers that represent a date and an exchange rate (USD/KRW), respectively, as shown below:

[…….., (20090511, 1248.28), ……..]

Notice that the **exchange rate** is **inversed**.

Pseudo code

For every year in 1994 - 2009 ,

1. Open the file for each year.
2. Read the exchange rate data of each day.
3. Re-format the data.
4. Append the data to a list.

Type in the **first code** given in the **hand-out** to implement a program for solving this problem.

Steps 1 and 2 : Open files and read data.

```
years = range(1994, 2010)
data = [ ]
for yr in years:
    fname = "data/ %d.txt" %  yr
    f = open(fname, "r")
    for line in f:
        do the rest of Step 2
```

step 1

step 2

Step 3: Re-format the data

How to convert date to an integer

"2009/5/11" ⟹ 20090511

```
yr, , mh, dy = date.split("/")
date = 10000 * int(yr) + 100 * int(mh) + int(dy)
```

How to inverse the exchange rate

KRW/USD = 1/(USD/KRW)

Homework 01

- Sign up to the github.com
- Join the education.github.com
- Add comments to the code line by line