

Computer Network Homework 1 Report

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Introduction

Our goal is to create an **IRC Robot**. The programming language I chose to do this job is *Python*. There are some needed files to run the program:

- `main` — a executable bash script
- `config` — config for the IRC robot
- `robot.py` — the program of robot

My robot is called *yeast_robot*, and I've implemented the following functions:

- *@help* — print out help message
- *@repeat* — repeat sentence
- *@cal* — simple calculator implemented by myself
- *@play* — play guess number game with robot
- *@guess* — guess number
- *@weather* — get 3-days weather forecast of the city in Taiwan

Program Structure

```
1 # import dependencies
2 import requests, re
3 ...
4 # initial settings
5 server_host = 'irc.freenode.net'
6 ...
7 # useful functions
8 def setup_channel():
9 ...
10 # connect to server
11 sock.connect((server_host, server_port))
12 ...
13 # send setup message: NICK, JOIN, ...
14 send_msg('JOIN ' + channel_name + ' ' + channel_key + '\r\n')
15 ...
16 # infinite loop to receive and process message
17 while True:
18     data = sock.recv(4096)
19     if data:
20         recv_msg = data.decode('utf-8').strip('\r\n')
21
22         # lots of regular expression inside the loop
23         # server is checking the robot
24         matched = re.match(r'^PING :', recv_msg)
25         if matched is not None:
26             ...
27         # someone is speaking
28         matched = re.match(r'^:(.+)!(.+) PRIVMSG #(\w+) :(.+)$', recv_msg)
29         if matched is not None:
30             ...
31         # someone call @help
32         match_help = re.match(r'^@help$', message)
33         if match_help is not None:
34             ...
35         # another command handler
36         ...
```

Challenge & Solution

It's a little bit hard at first to get all the stuff I need to join an IRC channel. I've tried so many times to join correctly, but my robot was still kicked out by the channel. Finally, I found that I should setup my username for authentication by sending "USER ... : Hi." before trying to join a channel.

Reflection

I think this homework assignment is interesting and a little bit challenging. Creating a chatroom robot is a quite useful skill!

How to Excute

This program is written in *Python*, so you must have `python3` installed in your environment. You can just type `./main` to run the program. The executable file *main* is written as a bash script in order to run *robot.py* with *Python 3*.