This homework is not graded, it is assigned for you to get familiar with the coding environment.

1  Form a 3-person group

You will be working in groups of three for the rest of the homeworks and the project. Please form the group as soon as possible (by October 3rd, 5pm, one week after HW1 is assigned) and register your group at:

https://docs.google.com/forms/d/e/1FAIpQLSe6LI3cCme19XaaNk7rrWRX0JnGhLcnzPzuAIvurq5VYPrufw/viewform

You should also nominate one group member to submit all assignments. After registration, your group will be assigned a 2-digit group number (e.g., 03), which will be updated on the course website as groups are formed. Remember this number: it will be used to identify homework submissions belonging to your group.

2  Implement an EchoServer

You goal here is to implement a simple HTTP server that takes a user query at path /search through CGI argument query, and returns the same query back to the user. For example, if I do:

```
congyu@linserv1[~]$ curl localhost:258XX/search?query=test + query
```

I should simply get:

```
congyu@linserv1[~]$ test query
```

Note that XX should be replaced by your group number, and + in the query indicates a space.

2.1  Download Instructor Code

You need to copy the instructors’ skeleton source code to your own working directory. Follow the steps below:

1. Get access to linserv1.cims.nyu.edu. Note that linserv1 is not accessible from outside and you must connect to access.cims.nyu.edu or some other departmental machines to get access to it.

2. Move to the hw0 directory:

```
congyu@linserv1[~]$ cd /home/congyu/cs2580/hw0
```
You should see the directory instructor within.
3. Verify the content of the instructor’s EchoServer code is readable to you:
   
   ```bash
   congyu@linserv1[hw0]$ cat instructor/src/edu/nyu/cs/cs2580/EchoServer.java
   This instructor version of the code is a skeleton and you job is to modify it to do the “echo” task.
   ```

4. Copy the instructor code to your working directory, `<gXX_working_dir>`:
   
   ```bash
   congyu@linserv1[hw0]$ cp -r instructor/* <gXX_working_dir>/
   ```

5. Modify the port number inside the instructor code!

6. Compile the modified code:
   
   ```bash
   congyu@linserv1[hw0]$ cd <gXX_working_dir>/src
   congyu@linserv1[src]$ javac edu/nyu/cs/cs2580/*.java
   ```

7. Run the compiled code:
   
   ```bash
   congyu@linserv1[src]$ java edu.nyu.cs.cs2580.EchoServer
   You should see the message:
   ```
   Listening on port: 258XX
   ```

8. Test the server through another terminal:
   
   ```bash
   congyu@linserv1[~]$ curl localhost:258XX
   You should see the message:
   ```
   Request received, but I am not smart enough to echo yet!
   ```

You may find the instruction helpful at:

http://cims.nyu.edu/webapps/content/systems/resources/computeservers/linserv

### 2.2 Do the Homework

Modify the instructor’s code to accomplish the “echo” task. You don’t have to develop your code on linserv1. In fact, it is better to work on the code somewhere else and submit the code when the code is almost done.

### 2.3 Submitting Your Code

Submission for hw0 is not required but is supported. However, it is highly recommended to go through the submission process once you have the group formed: this basic server will be used in future homeworks.

1. When you are done developing your code, copy it and all required files into a directory called homework0, maintaining the same subdirectory structure as before.

2. The submitting group member should package the code in this directory and submit it through NYU Classes.

3. All submissions are due by 5pm ET on the due date, after which grading will begin (although not this time since this homework is not graded).