LAB WEEK 13

Part I:
1. logon to your raphael account on raphael.math.uic.edu

2. Create a public_html direcory with a sub-directory named cgi-bin. The file permissions for public_html should be: drwxr-xr-x
The file permissions for cgi-bin (in public_html) should be: drwx–x–x
This might work:

```
$ mkdir public_html (in your home directory)
$ ls -l (to check file permissions)
$ cd public_html
$ mkdir cgi-bin
$ ls -l ( the file permissions for cgi-bin are not correct and must be changed
so others cannot read and copy your cgi scripts.)
$ chmod go-r cgi-bin
```

Look up any unix commands you are not familiar with. Start with links used in first-day lab exercise. The apache web-server is already running on raphael. It is configured to display web pages in your public_html directory. To test this, create a very simple web page in public_html named index.html:

```
<html>
<head>
<title> myfirst html </title>
</head>
<body>
My first web page works! (or someting better).
</body>
</html>
```

Now from any browser (connected to the internet from home or in the mac-lab, ...) enter the URL
http://raphael.math.uic.edu/∼260i999f10 and see if your web page is displayed. (use your classid instead of 999)

Part II: using CGI scripts

The apache web server on raphael is configured to execute python cgi scripts in your /cgi-bin/ directory.

The cgi script:

(a) must have an extension .py,

(b) the first line of the file must be: #!/usr/bin/env python and

(c) the file permissions must be changed so they can be read and executed by the server. Change the permissions of the .py file to -rwxr-xr-x. Here is the .html file (replace 999 with your classid):

```
<!-- file: cgicalculator.html, mcs260, fall 2010, lowman -->
<html>
<head>
<title> basic form outline </title>
</head>
<body>
Create form here.
<form action="http://raphael.math.uic.edu/~260i999f10/cgi-bin/cgicalculator.py"
method="post">
Enter x: <input type="text" name="x" value="0"><!-- input x -->
Enter y: <input type="text" name="y" value="0"><!-- input y -->
Add <input type="radio" name="operator" value="+" checked>
Sub <input type="radio" name="operator" value="-" >
<input type="submit">
</form>
</body>
</html>
```

Here is the python cgi script. It is a python program that receives values from the form in the html file, does the requested calculations and then returns a new web page to stdout. The new web page will be displayed by the web server. Type this file in cgi-bin and change the file permisions if needed:

```
#!/usr/bin/env python
# cgicalculator.py
# mcs260, fall 2009, lowman,
# simple example of using an html form with a cgi script
import cgi
def add(x,y):
    z = x+y
    print """Content-type: text/html\n\n
    %.2f + %.2f = %.2f
    <a href="http://raphael.math.uic.edu/~260i999f10/cgicalculator.html" > Return</a>
    """ % (x,y,z)
def sub(x,y):
    z = x-y
    print """Content-type: text/html\n\n
    %.2f - %.2f = %.2f
    <a href="http://raphael.math.uic.edu/~260i999f10/cgicalculator.html" > Return</a>
    """ % (x,y,z)
def main():
    form = cgi.FieldStorage()
    x = float( form["x"].value )
    y = float( form["y"].value )
    if form["operator"].value == "+":
        add(x,y)
    elif form["operator"].value == "-":
        sub(x,y)
if __name__ == '__main__':
    main()
```

Part III: Submit your work

1. Create a directory named 260lab13.Smith.John.799 and copy public_html into it. (replace John, Smith and 799 for your first name, last name and classid.)
2. Create a zipped tarball of the directory 260lab13.Smith.John.799 named 260lab13.Smith.John.799.tar.gz
3. Send the tarball to your TA(follow TA's instructions). Make the subject of your email "260 Week 13 Lab Complete" or "260 Week 13 Lab Incomplete" accordingly.