Python problem set 4
Reading and writing

Kshithij Iyer

Agenda

- Learning to read and write from and to a:

1. .txt file
2. .xml file
3. .json file
4. .csv file

- Connecting and retrieving from an mysql database.

A .txt file.

```
#write
f=open("try.txt","w")
f.write("first line"+"\n")
f.write("second line"+"\n")
f.write("third line"+"\n")
f.close()
#read
f=open("try.txt","r")
j=f.read(2)
print(j)
k=f.read(8)
print(k)
l=f.read()
print(l)
f.close()
```

```
#readline
print("readline")
f=open("try.txt","r")
j=f.readline()
print(j)
j=f.readline()
print(j)
j=f.readline()
print(j)
j=f.readline()
print(j)
f.close()
#reading lines using loop
print("using loop")
f=open("try.txt","r")
while True:
    l=f.readline()
    if(l):
        print(l)
    else:
        break
```

A .xml file

```
import xml.etree.ElementTree as ET
tree = ET.parse('G:\\python doc examples\\xml\\country.xml')
root = tree.getroot()
print(root)
print(root.tag)
print(root.attrib)
#getting the names of the cild
for child in root:
    print(child.tag, child.attrib)
#Parsing and getting the data
for country in root.findall('country'):
    rank = country.find('rank').text
    name = country.get('name')
    print(name, rank)
```

```
#Updateing the values in xml
for rank in root.iter('rank'):
    new_rank = int(rank.text) + 1
    rank.text = str(new_rank)
    rank.set('updated', 'yes')
tree.write('G:\\python doc examples\\xml\\output.xml')
```

A .json file

```
import json
student = {"101":{"Name":'Rohit', "Gender":"M"},
        "102":{"Name":'David',  "Gender":"M"},
        "103":{"Name":'Juliet', "Gender":"F"}}
print("Unsorted json file.....")
print(json.dumps(student));
print("Sorted json file....")
print(json.dumps(student,sort_keys=True))
#writing to json file
with open('student.json','a') as outfile: #This is the equaivalent of outfile=open()
   json.dump(student,outfile)
#reading a  json file
with open('crop.json','r') as outfile:
   data_from_file=json.load(outfile)
print("data of crop.json")
print(data_from_file)
```

A .csv file

```
import csv
#Reading a csv file
with open('equity.csv', 'r') as csvfile:
    spamreader = csv.reader(csvfile, delimiter=',', quotechar='|')
    for row in spamreader:
        print(row)
#getting only a specific column
with open('equity.csv', 'r') as csvfile:
    spamreader = csv.reader(csvfile, delimiter=',', quotechar='|')
    for row in spamreader:
        print(row[3])
```

```
#writing to csv files
with open('names.csv', 'w') as csvfile:
    fieldnames = ['first_name', 'last_name']
    writer = csv.DictWriter(csvfile, fieldnames=fieldnames)
    writer.writeheader()
    writer.writerow({'first_name': 'Baked', 'last_name': 'Beans'})
    writer.writerow({'first_name': 'Lovely', 'last_name': 'Spam'})
    writer.writerow({'first_name': 'Wonderful', 'last_name': 'Spam'})
```

Connecting to mysql

```
import pymysql.cursors
# Connect to the database
connection = pymysql.connect(host='localhost',user='root',password='kshithij',db='test',cursorclass=pymysql.cursors.DictCursor)
try:
    with connection.cursor() as cursor:
        # Create a new record
        sql = "INSERT INTO `users` (`email`, `password`) VALUES (%s, %s)"
        cursor.execute(sql, ('webmaster@python.org', 'very-secret'))

    # connection is not autocommit by default. So you must commit to save
    # your changes.
    connection.commit()
```

```
    with connection.cursor() as cursor:
        # Read a single record
        sql = "SELECT `id`, `password` FROM `users` WHERE `email`=%s"
        cursor.execute(sql, ('webmaster@python.org',))
        result = cursor.fetchone()
        print(result)
finally:
    connection.close()
```

Thank you