```
# -*- coding: utf-8 -*-
"""
Created on Sat Oct 10 23:31:16 2015
@author: hina
Reference: https://docs.python.org/3/tutorial/index.html
"""

print ()

##### input / output
##### you can read from command line, standard input, or a file
##### you can write to standard output, or a file

##### input from cmdline

# you can provide cmdline args in one of two ways:
#     - F6 to specify cmdline arguments and then F5 to execute, OR
#     - You can run following on command line:
#       runfile('Lesson15InputOutput.py', args='a b c')

# read cmdline args into argv
from sys import argv
print (argv)

# unpack argv into cmdline args
script, var1, var2, var3 = argv
print (script, var1, var2, var3)

##### input from stdin

# read input fromm stdin
yourName = input ("what is your name? ")
yourSchool = input ("which school do you go to? ")

# see what you read
print ("your name is:", yourName)
print ("your school is:", yourSchool)

##### file open and close

# You can open a file in 4 different modes: r (default), w, r+, a.
# This returns a file handle you can use to access the file.
# Always remember to close the file once done and free up any system resources.

# file name
fname = 'foo.txt'

# check if file exists
from os.path import exists
print(exists(fname))

# open file for reading
fhr = open(fname, 'r') # OR fhr = open('file.txt')
fhr.close()

# open file for writing (overwrites)
```

```
# if files exists and we open it for write, all contents will immediately be deleted,
# so always check first!
if (exists(fname)==False):
    fhw = open(fname, 'w')
    fhw.close()

# open file for appending (appends to last line)
fha = open(fname, 'a')
fha.close()

# open file for reading and writing
fhrw = open(fname, 'r+')
fhrw.close()

print ()

##### file read operations

# open file for reading
fhr = open(fname, 'r')

# print the first line
print (fhr.readline(), end='')
# print another line
print (fhr.readline(), end='')
print ()

# rewind to beginign of the file
fhr.seek(0)
# read entire file at one go
print (fhr.read())
print ()

fhr.seek(0)
# loop through the file and print each line
for line in fhr:
    print(line, end='')
print ()
print ()

fhr.seek(0)
# read entire file into a list
print (list(fhr))
print ()

fhr.seek(0)
# another way to read entire file into a list
print (fhr.readlines())
print ()

# close file
fhr.close()

print ()

##### file write operations
```

```
# file name
fname = 'bar.txt'

# open file for writing
fhw = open(fname, 'w')

# write a few lines
fhw.write ("123\n")
fhw.write ("456\n")
fhw.write ("789\n")
fhw.write ("0\n")

# close file
fhw.close()

# check what was written
fhr = open (fname, 'r')
print(fhr.read())
fhr.close()

print ()

# test

# assume foo.txt exists and has content
fh = open ('foo.txt', 'r')
print (fh.read())
print("line: ", fh.readline())
fh.close()

# assume bar.txt exists and has content
fh = open ('bar.txt', 'w')
fh.close()
fh= open ('bar.txt', 'r')
print(fh.read())
fh.close()

# assume bar.txt exists and has content
fh = open ('bar.txt', 'w')
#print(fh.read())
fh.close()

print ()
```