Hacettepe University
Computer Engineering Department

Programming in Python

BBM103 Introduction to Programming Lab 1
Week 7

Fall 2016
```python
file_input = open("input.txt", "r")

last_list = []
for line in file_input.readlines():
    list1 = line.split(':')
    last_list.extend(list1)
```
inputfile = open("data.txt","r")

database = {}

for line in inputfile:
    line = line.rstrip(\"\n\")
    items=line.split(\":\")
    database[items[0]] = items[1]

# Accessing values in a dictionary given a specific key
print("Name and Surname:",database["Name"], database["Surname"])
print("Address:",database["Address"])

# Accessing keys in a dictionary
for key in database.keys():
    print (key)

# Accessing values in a dictionary
for value in database.values():
    print (value)

# Accessing both keys and values in a dictionary
for key,value in database.items():
    print (key,"-",value)
```python
inputfile = open("students.txt","r")
students = {} 

for student_record in inputfile.readlines():
    student_record = student_record.rstrip("\n")
    student = student_record.split(":\")
    student_data = student[1].split","
    students[student[0]] = student_data

for key in students.keys():
    print(key + ":",students[key])

#Output:
#Leyla: ['Ankara', 'Fizik', '2']
#Emre: ['Hacettepe', 'Bilgisayar', '1']
#Ezra: ['Hacettepe', 'Fizik', '3']
#Kerem: ['Gazi', 'Mimarlik', '4']
#Sami: ['Bilkent', 'Felsefe', '4']

#Calculate how many Hacettepe students there are:

hacettepe_students = 0
for value in students.values():
    if value[0] == "Hacettepe":
        hacettepe_students += 1
print("There are",hacettepe_students,"Hacettepe students in total")

#Output:
#There are 2 Hacettepe students in total

#Calculate how many senior students there are:

senior_students = 0
for value in students.values():
    if value[2] == "4":
        senior_students += 1
print("There are",hacettepe_students,"senior students in total")
```
def display_time(h, m):
    time = ""
    delimiter = ":"
    if h<10:
        time = time + "0" + str(h)
    else:
        time = time + str(h)
    time = time + delimiter
    if m<10:
        time = time + "0" + str(m)
    else:
        time = time + str(m)
    print(time)

def add_hours(h):
    global hours
    hours = hours + h
    while hours>=24:
        hours = hours - 24

def add_minutes(m):
    global minutes
    minutes = minutes + m
    while minutes>=60:
        minutes = minutes - 60
        add_hours(1)

add_hours(19)
add_minutes(15)
display_time(hours, minutes)
import sys

def add_function(x, y):
    return x + y

def subtract_function(x, y):
    return x - y

def multiply_function(x, y):
    return x * y

def divide_function(x, y):
    return x / y

question = sys.argv[3]
if question == '+':
    print(out)
elif question == '-':
    print(out)
elif question == '*':
    print(out)
elif question == '/':
    print(out)
else:
    print("Wrong input.")
def insertionSort(alist):
    for index in range(1, len(alist)):
        currentValue = alist[index]
        position = index
        while position > 0 and alist[position - 1] > currentValue:
            alist[position] = alist[position - 1]
            position = position - 1
        alist[position] = currentValue

alist = [54, 26, 93, 17, 77, 31, 44, 55, 20]
print(alist)
insertionSort(alist)
print(alist)
```python
def bubbleSort(alist):
    for passnum in range(len(alist)-1, 0, -1):
        for i in range(passnum):
            if alist[i] > alist[i+1]:
                temp = alist[i]
                alist[i] = alist[i+1]
                alist[i+1] = temp
    print(alist)

alist = [54, 26, 93, 17, 77, 31, 44, 55, 20]
print(alist)
bubbleSort(alist)
print(alist)
```