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ITE315-Scripting(Lab 17)

Part 01

```
#!/usr/bin/python

import sqlite3
dbname = 'seqdata.db'
try:
  conn = sqlite3.connect(dbname)
except:
  print("Unable to open database")

query = 'SELECT * FROM Sequence'
try:
  rowSet = conn.execute(query)
  for row in rowSet:
    seqNum = row[0]
    sequence = row[1]
    print("Sequence %d:\t%s" % (seqNum, sequence))
except:
  print("Error: Unable to access the database")

conn.close()
```

(Didn't want to paste all 56 sequences)

```
Sequence 1:     GCTATATATATATATAGC
Sequence 2:     GCATTAATTAATTAATGC
Sequence 3:     GCGCATGCATGCATGCGC
Sequence 4:     GCCTAGCTAGCTAGCTGC
Sequence 5:     GCCGCGCGCGCGCGCGGC
Sequence 6:     GCGCCGGCCGGCCGGCGC
Sequence 7:     GCTACGTACGTACGTAGC
Sequence 8:     GCGATCGATCGATCGAGC
Sequence 9:     GCAAAAAAAAAAAAAAGC
Sequence 10:    GCCGAGCGAGCGAGCGGC
Sequence 11:    GCGAAGGAAGGAAGGAGC
Sequence 12:    GCGTAGGTAGGTAGGTGC
Sequence 13:    GCTGAGTGAGTGAGTGGC
Sequence 14:    GCAGCAAGCAAGCAAGGC
Sequence 15:    GCAAGAAAGAAAGAAAGC
Sequence 16:    GCGAGGGAGGGAGGGAGC
Sequence 17:    GCGGGGGGGGGGGGGGGC
Sequence 18:    GCAGTAAGTAAGTAAGGC
Sequence 19:    GCGATGGATGGATGGAGC
Sequence 20:    GCTCTGTCTGTCTGTCGC
Sequence 21:    GCACAAACAAACAAACGC
Sequence 22:    GCAGAGAGAGAGAGAGGC
Sequence 23:    GCGCAGGCAGGCAGGCGC
Sequence 24:    GCTCAGTCAGTCAGTCGC
Sequence 25:    GCATCAATCAATCAATGC
Sequence 26:    GCGTCGGTCGGTCGGTGC
Sequence 27:    GCTGCGTGCGTGCGTGGC
```

Part 02

```
#!usr/bin/python

from tkinter import *
import tkinter.messagebox
import sqlite3

top = Tk()
frame = Frame(top)
frame.pack()
label = Label(frame, text="Sequence Mutator", relief=RAISED)
label.pack(side=TOP)

seqListBox = Listbox(frame)

def mutate():
  selectedSeq = seqListBox.curselection()
  if not selectedSeq:
    sequenceString = ''
  else:
    sequenceString = seqListBox.get(selectedSeq)
  print("String to mutate is: " + sequenceString)
  tkinter.messagebox.showinfo("Selected Sequence", sequenceString)

dbname = 'seqdata.db'
try:
  conn = sqlite3.connect(dbname)
except:
  print("Unable to open database")
  tkinter.messagebox.showinfo("Database error", "Unable to open database")

query = 'SELECT * FROM Sequence'

rowSet = conn.execute(query)
for row in rowSet:
  seqNum = row[0]
  sequence = row[1]
  lbcontent = "Sequence %d : %s" % (seqNum, sequence)
  seqListBox.insert(seqNum, sequence)
  print("Sequence %d:\t%s" % (seqNum, sequence))

seqListBox.pack(side=LEFT)

conn.close()

seqListBox.select_clear(0, "end")
seqListBox.selection_set(0)
seqListBox.see(0)
seqListBox.activate(0)
seqListBox.selection_anchor(0)

mutateButton = Button(frame, text="Mutate", fg="black", command=mutate)
mutateButton.pack(side=RIGHT)
top.mainloop()
```

```
String to mutate is: GCATTAATTAATTAATGC
String to mutate is: GCGCATGCATGCATGCGC
String to mutate is: GCCTAGCTAGCTAGCTGC
String to mutate is: GCCGCGCGCGCGCGCGGC
```