

```
#IO
x = input("Enter a number")
print x * x

#if elif
x = input("enter a number")
if x >= 90:
    print("A")
elif x >= 80:
    print("B")
elif x >= 70:
    print("C")
elif x >= 60:
    print("D")
else:
    print("F")
print(x)

#while
i = 0
while i < 100:
    print i
    i = i + 1

#for
#prints 0,9
for i in range(0,10):
    print i

#prints names from list
names = ['Emma','Eli','Eden','Ezra']
for name in names:
    print (name)

#command line example
import sys

for i in range(0,len(sys.argv)):
    print (sys.argv[i])

#function
def displayPunishment(n):
    for i in range(1,n):
        print("I will not talk in class")

displayPunishment(500)

#function with return
def sum(x,y):
    result = x + y
    return result

z = sum(99,1)
print z
```

```
#functions2
def doesItChange(x):
    x = 9
def square(x):
    return x*x

y = 1
doesItChange(y)
print(y)

z = 8
z = square(z)

def swap(x,y):
    return (y,x)

a = 1
b = 2

(a,b) = swap(a,b)
(a,b) = (b,a)
print(a)
print(b)

#read write files
infile = open('bible.txt')
outfile = open('out.txt', 'a') #append, w to just write

text = infile.read()
#print(text)
outfile.write(text)

infile.close()
outfile.close()

#dictionary example
comp_classes = {150 : 'Proigramming 1',
                151 : 'Proigramming 2',
                170 : 'Introduction To Software Development',
                245 : 'Data Structures'}

print(comp_classes[150])
del comp_classes[170]
comp_classes[170] = 'Intro to Soft Dev'
print (len(comp_classes))
print(comp_classes.get(245))
print(comp_classes.keys()) #returns a list
print(comp_classes.values()) #returns a list

#GUI example
```

```

__author__ = 'dsteil'
import tkinter

class GUIExample:
    def __init__(self):
        self.__mainWindow = tkinter.Tk()
        self.count = 0

        self.up_button = tkinter.Button(self.__mainWindow, text="Up", command = self.
buttonClickedCountUp)
        self.down_button = tkinter.Button(self.__mainWindow, text="Down", command = self.
buttonClickedCountDown)
        self.reset_button = tkinter.Button(self.__mainWindow, text="Reset", command = self.
buttonClickedReset)
        self.count_label = tkinter.Label(self.__mainWindow, text=0)

        self.up_button.pack()
        self.down_button.pack()
        self.reset_button.pack()
        self.count_label.pack()

        self.__mainWindow.mainloop()

    def buttonClickedCountUp(self):
        self.count += 1
        self.count_label['text'] = self.count
    def buttonClickedCountDown(self):
        self.count -= 1
        self.count_label['text'] = self.count
    def buttonClickedReset(self):
        self.count = 0
        self.count_label['text'] = self.count

```

```
gui_Example = GUIExample()
```

```
#GUI with coupling
```

```
__author__ = 'dsteil'
```

```
import tkinter
```

```
from tkinter import *
```

```
class GUIExample:
```

```

    def __init__(self):
        self.__mainWindow = tkinter.Tk()
        self.count = IntVar()
        self.count.set(0)

        self.up_button = tkinter.Button(self.__mainWindow, text="Up", command = self.
buttonClickedCountUp)
        self.down_button = tkinter.Button(self.__mainWindow, text="Down", command = self.
buttonClickedCountDown)
        self.reset_button = tkinter.Button(self.__mainWindow, text="Reset", command = self.
buttonClickedReset)
        self.count_label = tkinter.Label(self.__mainWindow, textvariable=self.count)

```

```
self.up_button.pack()
self.down_button.pack()
self.reset_button.pack()
self.count_label.pack()

self.__mainWindow.mainloop()
```

```
def buttonClickedCountUp(self):
    self.count.set(self.count.get() + 1)
def buttonClickedCountDown(self):
    self.count.set(self.count.get() - 1)
def buttonClickedReset(self):
    self.count.set(0)
```

```
gui_Example = GUIExample()
```

```
#GUI grid of buttons
```

```
__author__ = 'dsteil'
```

```
import tkinter
```

```
import tkinter.messagebox
```

```
from tkinter import *
```

```
class GUIGridExample:
```

```
    def __init__(self):
        self.__mainWindow = tkinter.Tk()
```

```
    for row in range(0,10):
```

```
        for column in range(0,10):
```

```
            newButton = tkinter.Button(self.__mainWindow, text="T")
```

```
            newButton.config(command=lambda button=newButton: self.OnButtonClick(button))
```

```
            newButton.grid(row=row, column=column)
```

```
    self.__mainWindow.mainloop()
```

```
    def OnButtonClick(self,button):
```

```
        button.config(text='0', bg='blue')
```

```
gui_Example = GUIGridExample()
```