

### Exercise 2-0:

Write the pre-class registration assignment using Python.

Hints:

#1 loop can be done this way:

```
for p in range(0,9): ---> alternatively: range(9)
    print p
```

#2 to generate random numbers:

```
import random (usually done at the beginning of the code)
x=random.randint(0,9)
```

### Exercise 2-1: Binary to Decimal conversion

#1 Complete the script and verify that it's working

#2 Add the code to verify that the input string contains only 0s and 1s. The code should use only the methods covered until the 2nd class.

Save the script as ex2-1.py and submit it on SFS

```
#!/usr/bin/env python
"""
converts a string of bits to a decimal integer.
"""

#use raw_input to get user's input on keyboard
bstring = raw_input("Enter a string of bits: ")
decimal = 0

exponent = len(bstring)-1

#loop here for each bit in the binary
#tips: for looping within bstring you could use
#"for ... in bstring" or use index of the string
#you could use conversion formula below
    decimal = decimal + int(digit) * 2 ** exponent

print "The integer value is ", decimal
```



**Exercise 2-2:**

Run the script and explain how the print command (highlighted in red) in the script gives/format the output.

Hint: Use help() facility in python and research as required

Save following script as ex2-2.py. Write comment(text) on SFS

```
#!/usr/bin/env python
"""
converts decimal to binary.
"""

decimal = raw_input("Enter a decimal integer: ")
decimal = int(decimal)
if decimal == 0:
    print 0
else:
    print "Quotient remainder binary"
    bstring = ""
    while decimal > 0:
        remainder = decimal % 2
        decimal = decimal / 2
        bstring = str(remainder) + bstring
        print "%5d%8d%12s" % (decimal,
remainder, bstring)
    print "The binary representation is ",
bstring
```