New York University
School of Continuing and Professional Studies
Division of Programs in Information Technology

Introduction to Python
Session 2 Homework Solutions

2.1   Count from 0 up to 100 by 2's (or 3's or 4's).

```python
while True:
    uint = input('please enter an integer:  ')
    if not uint.isdigit():
        print("sorry, '{}', is not a valid integer".format(uint))
        continue
    break

interval = int(uint)

print("counting from 0 to 100 by {}'s".format(interval))

count = 0
while count <= 100:
    print(count)
    count = count + interval
```

2.2   Sum a sequence of integers.

```
while True:
    uint = input('please enter a positive integer:  ')
    if not uint.isdigit() or int(uint) < 1:
        print("sorry, '{}', is not a valid positive integer".format(uint))
        continue
    break

mysum = 0
mycount = 1
mymax = int(uint)

while mycount <= mymax:
    mysum = mysum + mycount
    mycount = mycount + 1

print('sum from 1 to {} is {}'.format(mymax, mysum))
```

2.3   Text Replacement Utility.

```python
sample_text = """And since you know you cannot see yourself,
so well as by reflection, I, your glass,
will modestly discover to yourself,
that of yourself which you yet know not of."""

def read_file(fname):
    try:
        text = open(fname).read()
    except IOError:
        print(('file {} not found or could not be read.  '.format(fname)))
        print('Using sample text instead.')
        text = sample_text
    return text

search = input('please enter search text:  ')
replace = input('please enter replacement text:  ')

text = sample_text

replace_count = text.count(search)
completed_text = text.replace(search, replace)

print()
print(completed_text)
print()
print("{} replacement(s) made".format(replace_count))
```

Consider the subtle distinction that the count of replacements should be made on the search text before the replacement is made. If it is made on the replace text after the replacements are made, we run the risk of counting text that already appeared in the text before the replacements were made.