

Bash Script : first_batch_job.pbs

```
#!/bin/bash
# Remarks: A line beginning with # is a comment.
#          A line beginning with #PBS is a PBS directive.
#          PBS directives must come first; any directives
#          after the first executable statement are ignored.
#####
# The PBS directives #
#####
#PBS -l nodes=2:ppn=2          # Request nodes and processors
per node
#PBS -l pmem=4gb              # Request Memory
#PBS -A open                   # Allocation
#PBS -l walltime=04:00:00     # Specify time limit
#PBS -j oe                     # Merge the outputs into a
single file
#PBS -o first_batch_job.out    # Output file name
#PBS -N first_batch_job       # Job name
#PBS -M emailid@psu.edu       # Email ID for notification
purposes
#PBS -m abe                    # Notification triggers
#####
# Bash commands #
#####
echo "Job Started"
sleep 60
echo "Job Ended"
```

Python Script - calc_gc_content.py

```
import sys
#####
# Assign the command line arguments to variables #
#####
source_location=sys.argv[1]
source_file=sys.argv[2]

input = open(source_location + source_file, 'r')
gc_content = []

#####
# Loop through the lines and calculate GC content #
#####
for line in input:
    if line[0:1] != '>':
        length = len(line)
        gc_count = line.count('G') + line.count('C')
        gc_content.append(round(float(gc_count)/float(length),
6))

print "The average GC content is :" + str(sum(gc_content)/
len(gc_content))
```

Bash Script - first_mod_job.pbs

```
#!/bin/bash
#####
# The PBS directives #
#####
#PBS -l nodes=2:ppn=2          # Request nodes and processors
per node
#PBS -l pmem=4gb              # Request Memory
#PBS -A open                  # Allocation
#PBS -l walltime=04:00:00     # Specify time limit
#PBS -j oe                    # Merge the outputs into a
single file
#PBS -o first_mod_job.out      # Output file name
#PBS -N first_mod_job          # Job name
#####
# Bash commands #
#####
DATA_SOURCE_DIR='/storage/work/userid/BG_Retreat_2017/'
PYTHON_SCRIPT_DIR='/storage/home/userid/BG_Retreat_2017/'
```