Assignment #1

```
# !/ bin/bash
# $RANDOM returns a different random integer at each invocation
#Nominal range: 0-32767 (signed 16-bit integers)
MAXCOUNT = 10
count = 1
echo
echo “$MAXCOUNT random numbers.”
echo “ _ _ _ _ _ _ _ _ _ _ “
while [ “$count” -le $MAXCOUNT ]      # Generate 10 ($MAXCOUNT) random integers
do
    number= $RANDOM
     echo $number
     let “count += 1”                # Increment count
done
     echo “_ _ _ _ _ _ _ _ _ _ “

# If we need a random integer within a certain range, use the 'modulo' operator
#This returns the remainder of a division operation
RANGE = 500
echo
number=$RANDOM
let “number%=$RANGE”
#.          ^^
echo “Random number less than $RANGE - - - - - $number”
echo
#If we need a random integer greater than a lower bound
#+ then setup a test to discard all numbers below that
FLOOR=200
```

```
number =0               #initialize
while [“$number -le $FLOOR]
do
   number=$RANDOM
done
echo “Random number greater than $FLOOR - - - - - $number”
echo
#Lets examine a simple alternative to the above loop
#let “number=$RANDOM+$FLOOR”
#combine above two techniques to retrieve random number between two limits
number=0.        #initialize
while [“$number -le $FLOOR]
do
   number=$RANDOM
let “number%=$RANGE”
#Scales $number down within $RANGE
done
echo “Random number between $FLOOR and $RANGE - - - - - $number”
echo
```

Assignment #2

CPU

Metric Name: System idle percentage – Description- The percentage of system/server spent in the idle state.

Metric name: interrupts and context switches-Description- Average number of hardware interrupts that the processor is receiving and the rate of switches from one thread to another.

Metric name: CPU utilization by cores: The CPU utilization for all central processing units or cores.

Memory

Metric name: Swap memory utilization-Description- The total swap space available in the server (in percentage)

Metric name: Memory used- Description- Total memory used by the server (in Bytes)

Metric name: Memory Break up – Description- A split up of free physical and free Swap memory.

Metric name: Memory pages (In/Out/Fault)- Description- Number of pages read from written to the disk respectively and the number of page faults.

Disks

Metric Name: Disk partition details & usage forecasting- Description- A split up of used and free disk space (in MB and percentage). Used (%) bar to view the predicted disk usage after seven days.

Metric name: Average disk utilization (%) – Description- The free and used disk space (in percentage) available in server.

Metric name: Disk (I/O) – Description- The read and write operations performed in the disk.

Metric name: Current individual disk utilization (%) -Description – The most recent (last polled) utilization of individual disk partition.