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Assignment B1

fibonacci.py

```
import time


def recur_fibo(n):
   """Recursive function to
   print Fibonacci sequence"""
   if n <= 1:
      return n
   else:
      return(recur_fibo(n-1) + recur_fibo(n-2))
s=time.time()
# take input from the user
nterms = 5

# check if the number of terms is valid
if nterms <= 0:
   print("Plese enter a positive integer")
else:
   print("Fibonacci sequence:")
   for i in range(nterms):
      print(recur_fibo(i))

e=time.time()

print "time reu-",e-s
```

factorial.py

```
import time
num = 5
factorial = 1
s=time.time()
# check if the number is negative, positive or zero
if num < 0:
   print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
   print("The factorial of 0 is 1")
else:
   for i in range(1,num + 1):
      factorial = factorial*i
   print("The factorial of",num,"is",factorial)
e=time.time()
print "time reu-",e-s
```

evodd.py

```
import time
num = 5
s=time.time()
if (num % 2) == 0:
   print("{0} is Even".format(num))
else:
   print("{0} is Odd".format(num))
```

```
e=time.time()
print "time reu-",e-s
```

main.py

```
import os
import time
os.system("cpufreq-set -f 300MHz")
print 'For 300MHz,'
os.system("python fibonaccii.py")
os.system("cpufreq-set -f 600MHz")
print 'For 600MHz,'
os.system("python fibonaccii.py")
os.system("cpufreq-set -f 800MHz")
print 'For 800MHz,'
os.system("python fibonaccii.py")
os.system("cpufreq-set -f 1000MHz")
print 'For 1000MHz,'
os.system("python fibonaccii.py")


os.system("cpufreq-set -f 300MHz")
print 'For 300MHz,'
os.system("python factorial.py")
os.system("cpufreq-set -f 600MHz")
print 'For 600MHz,'
os.system("python factorial.py")
os.system("cpufreq-set -f 800MHz")
print 'For 800MHz,'
os.system("python factorial.py")
os.system("cpufreq-set -f 1000MHz")
print 'For 1000MHz,'
os.system("python factorial.py")

os.system("cpufreq-set -f 300MHz")
print 'For 300MHz,'
os.system("python evenodd.py")
os.system("cpufreq-set -f 600MHz")
print 'For 600MHz,'
os.system("python evenodd.py")
os.system("cpufreq-set -f 800MHz")
print 'For 800MHz,'
os.system("python evenodd.py")
os.system("cpufreq-set -f 1000MHz")
print 'For 1000MHz,'
os.system("python evenodd.py")
```

OUTPUT:-

```
root@beaglebone:~# python main.py
For 300MHz,
Fibonacci sequence:
0
1
1
2
3
time requ- 0.0197818279266
```

For 600MHz,
Fibonacci sequence:
0
1
1
2
3
time requ- 0.00914406776428
For 800MHz,
Fibonacci sequence:
0
1
1
2
3
time requ- 0.00662994384766
For 1000MHz,
Fibonacci sequence:
0
1
1
2
3
time requ- 0.00991702079773

For 300MHz,
('The factorial of', 5, 'is', 120)
time reu- 0.00343799591064
For 600MHz,
('The factorial of', 5, 'is', 120)
time reu- 0.00229406356812
For 800MHz,
('The factorial of', 5, 'is', 120)
time reu- 0.00130391120911
For 1000MHz,
('The factorial of', 5, 'is', 120)
time reu- 0.00128316879272

For 300MHz,
5 is Odd
time reu- 0.00476408004761
For 600MHz,
5 is Odd
time reu- 0.00119996070862
For 800MHz,
5 is Odd
time reu- 0.00173497200012
For 1000MHz,
5 is Odd
time reu- 0.0014500617981
root@beaglebone:~#