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KELAS : SISTEM OPERASI A

Input :

```
from os import getpid
from time import time, sleep
from multiprocessing import cpu_count, Pool, Process

batas = int(input("masukkan batas perulangan : "))

def cetak(i):
    for i in range(1, batas+1):
        if i % 2 == 1:
           print(i, "ganjil", "- ID proses", getpid())
           continue
        print(i, "genap", "- ID proses", getpid())
    sleep(1)

print("sekuensial")

sekuensial_awal = time()

for i in range(1):
    cetak(i)
                              [ Read 55 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute   ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify   ^/ Go To Line
```

```
sekuensial_akhir = time()
print()

print("multiprocessing.Process")

kumpulan_proses = []

process_awal = time()

for i in range(1):
    p = Process(target=cetak, args=(i,))
    kumpulan_proses.append(p)
    p.start()

for i in kumpulan_proses:
    p.join()

process_akhir = time()
print()
```

```
    p.join()

process_akhir = time()
print()

print("multiprocessing.Pool")

pool_awal = time()

pool = Pool()
pool.map(cetak, range(0,1))
pool.close()

pool_akhir = time()
print()

print("Waktu eksekusi sekuensial :", sekuensial_akhir - sekuensial_awal, "detik")
print("Waktu multiprocessing.Process :", process_akhir - process_awal, "detik")
print("Waktu multiprocessing.Pool :", pool_akhir - pool_awal, "detik")
```

Output :

```
sintyarst@sintyarst-VirtualBox:~$ nano Tugas_8.py
sintyarst@sintyarst-VirtualBox:~$ python3 Tugas_8.py
masukkan batas perulangan : 3
sekuensial
1 ganjil - ID proses 2228
2 genap - ID proses 2228
3 ganjil - ID proses 2228

multiprocessing.Process
1 ganjil - ID proses 2229
2 genap - ID proses 2229
3 ganjil - ID proses 2229

multiprocessing.Pool
1 ganjil - ID proses 2230
2 genap - ID proses 2230
3 ganjil - ID proses 2230

Waktu eksekusi sekuensial : 1.003746509552002 detik
Waktu multiprocessing.Process : 1.069953441619873 detik
Waktu multiprocessing.Pool : 1.3265478610992432 detik
```