Process Control

1. By making a nano shellscript of jobs

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ nano processcontrol.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ chmod +x processcontrol.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ ./processcontrol.sh
Process Control Demonstration
Parent Shell PID:14197
Starting a long-running process (sleep 100)...
Process started with PID:14198
Current jobs:
[1]+  Running                 sleep 100 &
Now you can:
1. Use fg %1 to bring it to foreground
2. Press Ctrl+Z to suspend
3. Use bg%1 to resume in background
4. Use 'kill 14198' to terminate
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```

```
#!/bin/bash
echo "Process Control Demonstration"
echo "Parent Shell PID:$$"
echo "Starting a long-running process (sleep 100)..."
sleep 100 &
PID1=$!
echo "Process started with PID:$PID1"
echo "Current jobs:"
jobs
echo "Now you can:"
echo "1. Use fg %1 to bring it to foreground"
echo "2. Press Ctrl+Z to suspend"
echo "3. Use bg%1 to resume in background"
echo "4. Use 'kill $PID1' to terminate"
wait
```

2. View jobs:

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ sleep 20 &
[1] 14774
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ jobs
[1]+  Running                 sleep 20 &
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```

3. Bring to foreground:

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ fg %1
bash: fg: job has terminated
[1]+  Done                    sleep 20
```

Now press Ctrl+Z to suspend the program

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ sleep 100 &
[1] 15223
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ fg %1
sleep 100
^Z
[1]+  Stopped                 sleep 100
```

4. Resume in Background

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ bg %1
[1]+ sleep 100 &
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```

5. KIll the process
   Check PID by using ps -f | grep sleep

```
           └─wpa_supplicant(1228)
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ kill 4125
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```

```
                                    ├─{firefox}(4107)
                                    ├─{firefox}(4114)
                                    ├─{firefox}(4125)
                                    ├─{firefox}(4127)
                                    ├─{firefox}(4128)
                                    └─{firefox}(4288)
```

6. For background task:
   Input:

```
GNU nano 7.2
#!/bin/bash
echo "Background task started"
echo "Process ID:$$"
count=1
while true
do
echo "Running... Count = $count"
count=$((count+1))
sleep 5
done
```

Output:

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ nano backgroundtask.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ chmod +x backgroundtask.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ ./backgroundtask.sh
Background task started
Process ID:18153
Running... Count = 1
Running... Count = 2
Running... Count = 3
Running... Count = 4
Running... Count = 5
Running... Count = 6
Running... Count = 7
Running... Count = 8
Running... Count = 9
Running... Count = 10
Running... Count = 11
Running... Count = 12
Running... Count = 13
Running... Count = 14
Running... Count = 15
Running... Count = 16
Running... Count = 17
```

7. Check running jobs:

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ jobs
[1]+  Stopped                 ./backgroundtask.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```

8. View Process Details:

```
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ ps -f | grep backgroundtask
ubuntu      18153    7269  0 15:53 pts/0    00:00:00 /bin/bash ./backgroundtask.sh
ubuntu      18965    7269  0 16:02 pts/0    00:00:00 grep --color=auto backgroundt
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```

9. Bring to Foreground:
   Fg %1

```
ubuntu      18965    7269  0 16:02 pts/0    00:00:00 grep --color=auto backgroundt
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$ fg %1
./backgroundtask.sh
Running... Count = 29
Running... Count = 30
^Z
[1]+  Stopped                 ./backgroundtask.sh
ubuntu@ubuntu-OptiPlex-SFF-7020:~/sanjana$
```