

## Code for Priority Scheduling :-

# Python3 implementation for Priority Scheduling with different Arrival Time priority scheduling

```
"""1. sort the processes according to arrival time
2. if arrival time is same the acc to priority
3. apply fcfs """
```

```
totalprocess = 5
proc = []
for i in range(5):
    l = []
    for j in range(4):
        l.append(0)
    proc.append(l)
```

# Using FCFS Algorithm to find Waiting time

```
def get_wt_time( wt):
```

```
    # declaring service array that stores cumulative burst time
    service = [0] * 5
```

```
    # Initialising initial elements of the arrays
    service[0] = 0
    wt[0] = 0
```

```
    for i in range(1, totalprocess):
        service[i] = proc[i - 1][1] + service[i - 1]
        wt[i] = service[i] - proc[i][0] + 1
```

```
    # If waiting time is negative, change it to zero
    if(wt[i] < 0) :
        wt[i] = 0
```

```
def get_tat_time(tat, wt):
```

```
    # Filling turnaroundtime array
    for i in range(totalprocess):
        tat[i] = proc[i][1] + wt[i]
```

```
def findgc():
```

```
    # Declare waiting time and turnaround time array
    wt = [0] * 5
    tat = [0] * 5
```

```
    wavg = 0
    tavg = 0
```

```
    # Function call to find waiting time array
    get_wt_time(wt)
```

```
# Function call to find turnaround time
```

```
get_tat_time(tat, wt)
```

```
stime = [0] * 5
```

```
ctime = [0] * 5
```

```
stime[0] = 1
```

```
ctime[0] = stime[0] + tat[0]
```

```
# calculating starting and ending time
```

```
for i in range(1, totalprocess):
```

```
    stime[i] = ctime[i - 1]
```

```
    ctime[i] = stime[i] + tat[i] - wt[i]
```

```
print("Process_no\tStart_time\tComplete_time","\tTurn_Around_Time\tWaiting_Time")
```

```
# display the process details
```

```
for i in range(totalprocess):
```

```
    wavg += wt[i]
```

```
    tavg += tat[i]
```

```
    print(proc[i][3], "\t\t", stime[i], "\t\t", end = " ")
```

```
    print(ctime[i], "\t\t", tat[i], "\t\t\t", wt[i])
```

```
# display the average waiting time and average turn around time
```

```
print("Average waiting time is : ", end = " ")
```

```
print(wavg / totalprocess)
```

```
print("average turnaround time : " , end = " ")
```

```
print(tavg / totalprocess)
```

```
# Driver code
```

```
if __name__ == "__main__":
```

```
    arrivaltime = [1, 2, 3, 4, 5]
```

```
    bursttime = [3, 5, 1, 7, 4]
```

```
    priority = [3, 4, 1, 7, 8]
```

```
for i in range(totalprocess):
```

```
    proc[i][0] = arrivaltime[i]
```

```
    proc[i][1] = bursttime[i]
```

```
    proc[i][2] = priority[i]
```

```
    proc[i][3] = i + 1
```

```
# Using inbuilt sort function
```

```
proc = sorted (proc, key = lambda x:x[2])
```

```
proc = sorted (proc)
```

```
# Calling function findgc for finding Gantt Chart
```

```
findgc()
```