**Ex. No.: 6c)**
**Date:** 28/2/2025

## PRIORITY SCHEDULING

**Aim:**

To implement priority scheduling technique

**Algorithm:**

1. Get the number of processes from the user.
2. Read the process name, burst time and priority of process.
3. Sort based on burst time of all processes in ascending order based priority 4.
Calculate the total waiting time and total turnaround time for each process 5.
Display the process name & burst time for each process.
6. Display the total waiting time, average waiting time, turnaround time

**Program Code:**

```
import array
num = int(input("Enter number of processes: "))
pro = array.array('i', range(1, num+1))
bt = array.array('i', map(int, input("Enter burst
                                time: ").split()))

Priorities: ").split()
n = sorted(range(num), key = lambda i: pri[i])
bt = array.array('i', [bt[i] for i in n])
pro = array.array('i', [pro[i] for i in n])
pri = array.array('i', [pri[i] for i in n])
wt = array.array('i', [0]*num)
```

```
wt = array.array('i', [0]*num)
ct = array.array('i', [0]*num)
tat = array.array('i', [0]*num)
for i in range(1, num):
    ct[i] = ct[i-1] + bt[i]
for i in range(num):
    tat[i] = ct[i] - ct[i]
for i in range(num):
    wt[i] = tat[i] - bt[i]
avg_wt = sum(wt)/num
avg_tat = sum(tat/num
print("\n process \t Burst time \t priority \t completion
    time \t Waiting time \t turnaround time")
for i in range(num):
    Print(f"{pro[i]}\t{bt[i]}\t\t{pri[i]}\t\t
    {ct[i]}\t\t{wt[i]}\t\t{tat[i]}")
Print(f"\n average waiting time: {avg_wt:.2f}")
print(f"Average turnaround time: {avg_tat:.2f}")
```

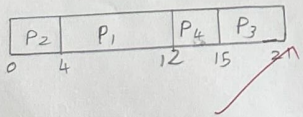
Output

Enter number of process : 4
Enter burst time of process : 8 4 6 3
Enter priorities : 2 1 4 3

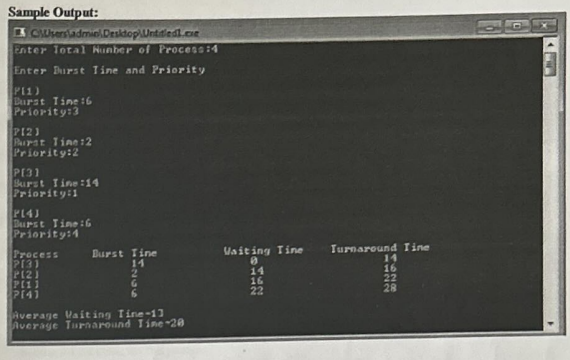
| Process | Arrival time (ms) | Burst time (ms) | Priority (ms) | Completion time (ms) | Waiting time (ms) | Turnaround time (ms) |
|---|---|---|---|---|---|---|
| 2 | 0 | 4 | 1 | 4 | 0 | 4 |
| 1 | 0 | 8 | 2 | 12 | 4 | 12 |
| 4 | 0 | 3 | 3 | 15 | 12 | 15 |
| 3 | 0 | 6 | 4 | 21 | 15 | 21 |

Average waiting time = 7.75 ms
Average turnaround time = 13.00 ms

The grantt chart for this schedule is




**Sample Output:**




**Result:**

Thus the program for priority Scheduling have been executed Successfully