Ex. No.: 6c)
Date: 28/2/25

PRIORITY SCHEDULING

Aim:

To implement priority scheduling technique

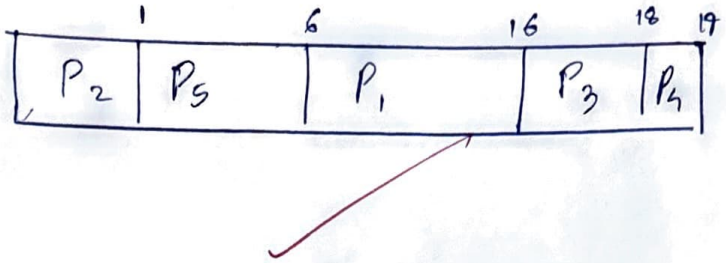
Algorithm:

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

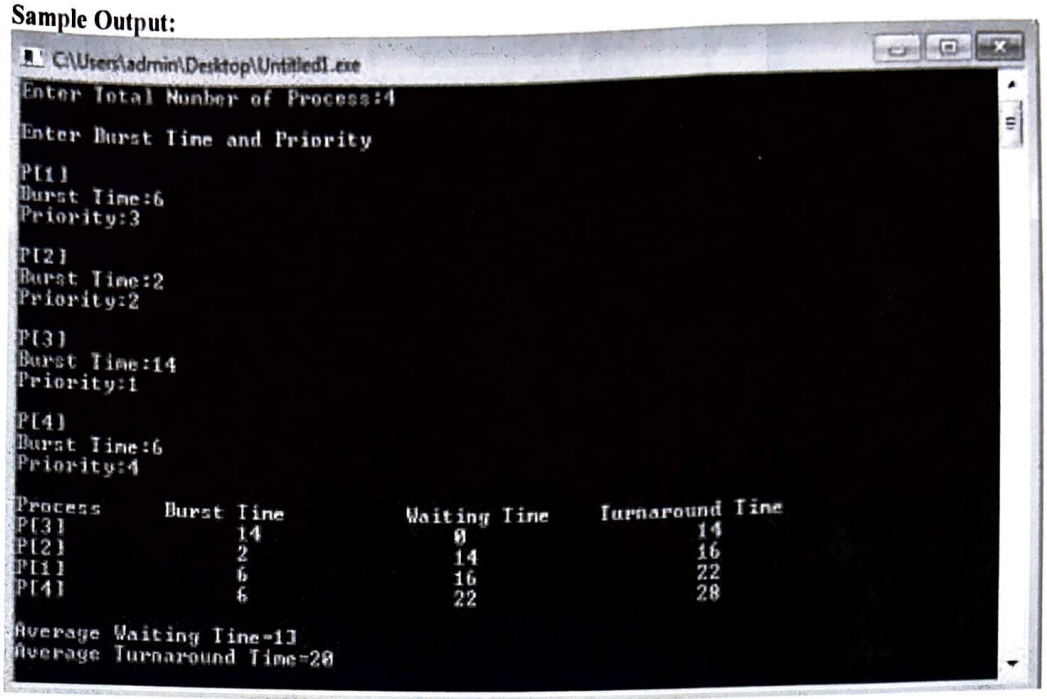
Program Code:

```
n = int(input("Enter number of processes: "))
p = [(i+1) for i in range(n)]

bt = []
priority = []

for i in range(n):
    print(f"P[{i+1}] :- ")
    el = int(input("Burst Time : "))
    bt.append(el)
    el_1 = int(input("Priority: "))
    priority.append(el_1)
    print()

for i in range(n-1):
    for j in range(n-i-1):
        if priority[j] > priority[j+1]:
            priority[j], priority[j+1] = priority[j+1], priority[j]
            p[j], p[j+1] = p[j+1], p[j]
            bt[j], bt[j+1] = bt[j+1], bt[j]

ct = [0]*n
ct[0] = bt[0]
for i in range(1, n):
    ct[i] = ct[i-1] + bt[i]

tat = ct[:]

wt = [tat[i] - bt[i] for i in range(n)]

atat = sum(tat)/n
awt = sum(wt)/n

print("\nProcess\tBT\tCT\tTAT\tWT")
for i in range(n):
    print(f"P{p[i]}\t{bt[i]}\t{ct[i]}\t{tat[i]}\t{wt[i]}")

print("\nAvg Turnaround Time: %.2f" % atat)
print("Avg Waiting Time: %.2f" % awt)
```

Gantt Chart :-



Sample Output:



Enter Number of processes : 5

P1 :-
Burst Time : 10
Priority : 3

P2 :-
Burst Time : 1
Priority : 1

P3 :-
Burst Time : 2
Priority : 4

P4 :-
Burst Time : 1
Priority : 5

P5 :-
Burst Time : 5
Priority : 2

Process	BT	CT	TAT	WT
P_2	1	1	1	0
P_5	5	6	6	1
P_1	10	16	16	6
P_3	2	18	18	16
P_4	1	19	19	18

Average Turnaround Time : 12.00
Average Waiting Time : 8.20

Result:

The Program to implement priority CPU scheduling has been successfully executed.