

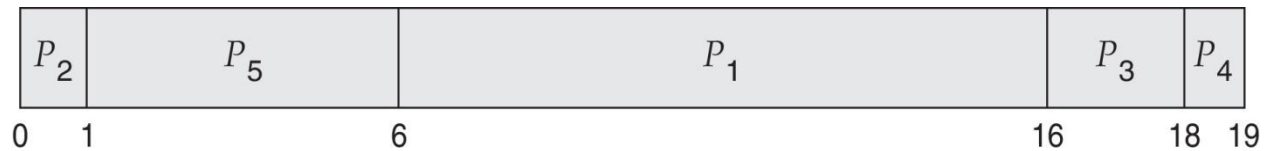
## Experiment No: 04

Experiment Name: Implementation of Priority Scheduling Algorithm for Using C/C++.

### Priority Scheduling Algorithm Theoretical Explanation:

Process	Burst Time	Priority
P1	10	3
P2	1	1
P3	2	4
P4	1	5
P5	5	2

### Priority scheduling Gantt Chart



Average waiting time =  $(0+1+6+16+18)/5=8.2$

Average turn-around time =  $(1+6+16+18+19)/5=12$

### Priority Scheduling Algorithm Using C++ Code:

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int bt[20],p[20],wt[20],tat[20],pr[20],i,j,n,total=0,pos,temp,avg_wt,avg_tat;
```

```
    printf("Enter Total Number of Process:");
```

```
    scanf("%d",&n);
```

```
    printf("\nEnter Burst Time and Priority\n");
```

```
    for(i=0; i<n; i++)
```

```
    {
```

```
        printf("\nP[%d]\n",i+1);
```

```

    printf("Burst Time:");
    scanf("%d",&bt[i]);
    printf("Priority:");
    scanf("%d",&pr[i]);
    p[i]=i+1;      //contains process number
}

//sorting burst time, priority and process number in ascending order using selection sort
for(i=0; i<n; i++)
{
    for(j=i+1; j<n; j++)
    {
        if(pr[j]<pr[i])
        {
            temp=pr[i];
            pr[i]=pr[j];
            pr[j]=temp;

            temp=bt[i];
            bt[i]=bt[j];
            bt[j]=temp;

            temp=p[i];
            p[i]=p[j];
            p[j]=temp;
        }
    }
}

```

```

wt[0]=0; //waiting time for first process is zero

//calculate waiting time
for(i=1; i<n; i++)
{
    wt[i]=wt[i-1]+bt[i-1];
    total+=wt[i];
}

avg_wt=total/n; //average waiting time
total=0;

printf("\nProcess\t Burst Time \tWaiting Time\tTurnaround Time");
for(i=0; i<n; i++)
{
    tat[i]=bt[i]+wt[i]; //calculate turnaround time
    total+=tat[i];
    printf("\nP[%d]\t\t %d\t\t %d\t\t%d",p[i],bt[i],wt[i],tat[i]);
}

avg_tat=total/n; //average turnaround time
printf("\n\nAverage Waiting Time=%d",avg_wt);
printf("\nAverage Turnaround Time=%d\n",avg_tat);

return 0;
}

```

## Output:

Enter Total Number of Process:5

Enter Burst Time and Priority

P[1]

Burst Time:10

Priority:3

P[2]

Burst Time:1

Priority:1

P[3]

Burst Time:2

Priority:4

P[4]

Burst Time:1

Priority:5

P[5]

Burst Time:5

Priority:2

Process	Burst Time	Waiting Time	Turnaround Time
P[2]	1	0	1
P[5]	5	1	6
P[1]	10	6	16
P[3]	2	16	18
P[4]	1	18	19

Average Waiting Time=8

Average Turnaround Time=12