1905648 CC LAB ASSIGNMENT 1

Q-> Write the scheduling technique for FCFS nd SJF(Shortest Jo First) in C.

Ans-> **FCFS**

```
#include<stdio.h>

int main()
{
   int n,bt[20],wt[20],tat[20],i,j;
   float avwt=0,avtat=0;
   printf("Enter total number of processes:");
   scanf("%d",&n);

   printf("\nEnter Burst Time for processes:\n");
   for(i=0;i<n;i++)
   {
      printf("P%d:",i+1);
      scanf("%d",&bt[i]);
   }

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

   //calculating waiting time
   for(i=1;i<n;i++)
   {
      wt[i]=0;
      for(j=0;j<i;j++)
         wt[i]+=bt[j];
   }

   printf("\nAfter FCFS Scheduling: \n");
   printf("\nProcess\t\tBurst Time\tWaiting Time\tTurnaround Time");

   //calculating turnaround time
   for(i=0;i<n;i++)
```

```
    {
        tat[i]=bt[i]+wt[i];
        avwt+=wt[i];
        avtat+=tat[i];
        printf("\nP[%d]\t\t%d\t\t%d\t\t%d",i+1,bt[i],wt[i],tat[i]);
    }

    avwt/=i;
    avtat/=i;
    printf("\nAverage Waiting Time:%.2f seconds",avwt);
    printf("\nAverage Turnaround Time:%.2f seconds",avtat);

    return 0;
}
```

OUTPUT

```
Enter total number of processes:4

Enter Burst Time for processes:
P1:10
P2:6
P3:8
P4:4

After FCFS Scheduling:

Process         Burst Time      Waiting Time    Turnaround Time
P[1]            10              0               10
P[2]            6               10              16
P[3]            8               16              24
P[4]            4               24              28
Average Waiting Time:12.50 seconds
Average Turnaround Time:19.50 seconds

...Program finished with exit code 0
```

SJF Program

```
#include<stdio.h>

void main()
{
   int bt[20],p[20],wt[20],tat[20],i,j,n,total=0,pos,temp;
   float avg_wt,avg_tat;
   printf("Enter number of process:");
   scanf("%d",&n);

   printf("\nEnter Burst Time for processes:\n");
   for(i=0;i<n;i++)
   {
      printf("p%d:",i+1);
      scanf("%d",&bt[i]);
      p[i]=i+1;          //contains process number
   }

   //sorting burst time in ascending order using selection sort
   for(i=0;i<n;i++)
   {
      pos=i;
      for(j=i+1;j<n;j++)
      {
         if(bt[j]<bt[pos])
            pos=j;
      }

      temp=bt[i];
      bt[i]=bt[pos];
      bt[pos]=temp;

      temp=p[i];
      p[i]=p[pos];
      p[pos]=temp;
   }
```

```
    wt[0]=0;          //waiting time for first process will be zero

    //calculate waiting time
    for(i=1;i<n;i++)
    {
        wt[i]=0;
        for(j=0;j<i;j++)
            wt[i]+=bt[j];

        total+=wt[i];
    }

    avg_wt=(float)total/n;      //average waiting time
    total=0;

    printf("\nAfter SJF Scheduling: \n");
    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\t%d",p[i],bt[i],wt[i],tat[i]);
    }

    avg_tat=(float)total/n;     //average turnaround time
    printf("\n\nAverage Waiting Time=%.2f seconds",avg_wt);
    printf("\nAverage Turnaround Time=%.2f seconds",avg_tat);
}
```

OUTPUT

```
Enter number of process:4

Enter Burst Time for processes:
p1:8
p2:10
p3:4
p4:6

After SJF Scheduling:

Process     Burst Time          Waiting Time    Turnaround Time
p3                4                   0                   4
p4                6                   4                   10
p1                8                   10                  18
p2                10                  18                  28

Average Waiting Time=8.00
Average Turnaround Time=15.00

...Program finished with exit code 0
```