Operating systems

IMPLEMENTATION OF FCFS ALGORITHM

LAB MANUAL
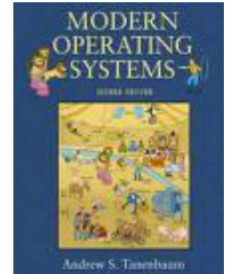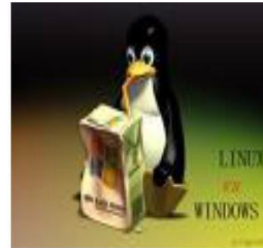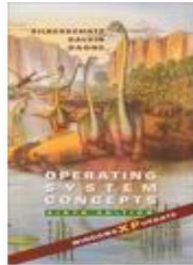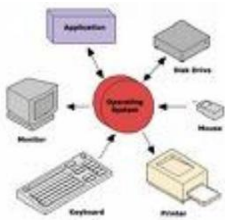
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Lab objective

Write a C program to implement the various process scheduling mechanisms such

Algorithm for FCFS scheduling:

Step 1: Start the process

Step 2: Accept the number of processes in the ready Queue

Step 3: For each process in the ready Q, assign the process id and accept the CPU burst time

Step 4: Set the waiting of the first process as '0' and its burst time as its turn around time

Step 5: for each process in the Ready Q calculate

      (a) Waiting time for process(n)= waiting time of process (n-1) + Burst time of process(n-1)

      (b) Turn around time for Process(n)= waiting time of Process(n)+ Burst time for process(n)

      (a) Average waiting time = Total waiting Time / Number of process

      (b) Average Turnaround time = Total Turnaround Time / Number of process

Step 7: Stop the process

/* FCFS SCHEDULING ALGORITHM */

```
#include<stdio.h>
void main()
{
 int i,n,sum,wt,tat,twt,ttat;
 int t[10];
```

```c
float awt,atat;
clrscr();

printf("Enter number of processors:\n");
scanf("%d",&n);
for(i=0;i<n;i++)
{
  printf("\n Enter the Burst Time of the process %d",i+1);
  scanf("\n %d",&t[i]);
}
printf("\n\n FIRST COME FIRST SERVE SCHEDULING ALGORITHM \n");
printf("\n Process ID \t Waiting Time \t Turn Around Time \n"); printf("1 \t\t
0 \t\t %d \n",t[0]);
sum=0;
twt=0;
ttat=t[0];
for(i=1;i<n;i++)
{
 sum+=t[i-1];
 wt=sum;
 tat=sum+t[i];
 twt=twt+wt;
 ttat=ttat+tat;
 printf("\n %d \t\t %d \t\t %d",i+1,wt,tat);
 printf("\n\n");
}
 awt=(float)twt/n;
 atat=(float)ttat/n;
 printf("\n Average Waiting Time %4.2f",awt);
 printf("\n Average Turnaround Time %4.2f",atat);
 getch();
}
```

OUTPUT:

Enter number of processors:
3

 Enter the Burst Time of the process 1: 2

 Enter the Burst Time of the process 2: 5

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Enter the Burst Time of the process 3:   4

FIRST COME FIRST SERVE SCHEDULING ALGORITHM

Process ID	Waiting Time	Turn Around Time
1	0	2
2	2	7
3	7	11

Average Waiting Time 3.00
Average Turnaround Time 6.67