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// FCFS ( First Come First Serve - Sheduling Algorithm)

#include<stdio.h>
int main()
{
    int n;
    int p[20],b[20],a[20];
    printf("Enter the no of process :");
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        p[i]=i+1;
        printf("Process %d : \n\n",i+1);
        printf("Arrival time :");
        scanf("%d",&a[i]);
        printf("Burst time :");
        scanf("%d",&b[i]);
    }

    printf("Process_id      Arrival_time    Burst_time\n");

    for(int i=0;i<n;i++)
    {
        printf("    %d              %d              %d      \n",p[i],a[i],b[i]);
    }

    //Sorting according to the arrival time
    int temp;

    for(int i=0;i<n;i++)
    {
        for(int j=0;j<n-i-1;j++)
        {
            if(a[j]>a[j+1])
            {
                temp=a[j];
                a[j]=a[j+1];
                a[j+1]=temp;

                temp=b[j];
                b[j]=b[j+1];
                b[j+1]=temp;

                temp=p[j];
                p[j]=p[j+1];
                p[j+1]=temp;
            }
        }
    }

    //Gantt chart

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int g[20];
g[0]=0;

for(int i=0;i<n;i++)
{
    if(a[i]>g[i])
    {
        g[i+1]=a[i]+b[i];
    }
    else
    {
        g[i+1]=g[i]+b[i];
    }
}

int t[20],w[20];
int avgwt=0,avgtt=0;

for(int i=0;i<n;i++)
{
    t[i]=g[i+1]-a[i];
    w[i]=t[i]-b[i];

    avgwt+=w[i];
    avgtt+=t[i];
}

avgtt=avgtt/n;
avgwt=avgwt/n;

printf("Result:\n\n");
printf("Pid      AT      BT      CT      TWT      WT\n");

for (int i = 0; i < n; i++) {
    printf("%d      %d      %d      %d      %d      %d\n", p[i], a[i], b[i], g[i +
1], t[i], w[i]);
}

printf("Average turn around time : %d",avgtt );
printf("Average waiting time : %d",avgwt );
}

```