

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

```
void main()
```

```
{
```

```
    int n,c=0;
```

```
    printf("Enter number of processes: ");
```

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

```
    int proc_id[n],at[n],bt[n],ct[n],tat[n],wt[n],m[n],b[n];
```

```
    double avg_tat=0.0,ttat=0.0,avg_wt=0.0,twt=0.0;
```

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

```
    {   proc_id[i]=i+1;m[i]=0;}
```

```
    printf("Enter arrival times:\n");
```

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

```
        scanf("%d",&at[i]);
```

```
    printf("Enter burst times:\n");
```

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

```
    {   scanf("%d",&bt[i]);b[i]=bt[i];}
```

```
    int count=0,mb,p=0,min=0;
```

```
    while(count<n)
```

```
    {
```

```
        min=b[0];mb=0;
```

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

```
        {
```

```
            if(at[i]<=c && m[i]!=1)
```

```
            {
```

```
                min=b[i];mb=i;
```

```
                for(int k=0;k<n;k++)
```

```
                {
```

```
                    if(b[k]<=min && at[k]<=c && m[k]!=1)
```

```
                    {
```

```
                        min=b[k];mb=k;
```

```
                    }
```

```
                }
```

```
            if(b[mb]==1)
```

```

        {m[mb]=1;count++;}
        if(c>=at[mb])
        {  c++;b[mb]--;}
        else
            c+=at[mb]-ct[p];
        if(b[mb]==0)
            ct[mb]=c;
    }
    p=mb;
    if(count==n)
        break;
}
}
for(int i=0;i<n;i++)
    tat[i]=ct[i]-at[i];
for(int i=0;i<n;i++)
    wt[i]=tat[i]-bt[i];

printf("SJF(Pre-emptive) scheduling:\n");
printf("PID\tAT\tBT\tCT\tTAT\tWT\n");
for(int i=0;i<n;i++)
    printf("P%d\t%d\t%d\t%d\t%d\t%d\n",proc_id[i],at[i],bt[i],ct[i],tat[i],wt[i]);

for(int i=0;i<n;i++)
{
    ttat+=tat[i];twt+=wt[i];
}
avg_tat=ttat/(double)n;
avg_wt=twi/(double)n;
printf("\nAverage turnaround time:%lfms\n",avg_tat);
printf("\nAverage waiting time:%lfms\n",avg_wt);
}

```