

**4 .Construct a scheduling program with C that selects the waiting process with the smallest execution time to execute next**

**A. Code:**

```
#include<stdio.h>
int 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("Enter Burst Time:\n");
    for(i=0;i<n;i++)
    {
        printf("p%d:",i+1);
        scanf("%d",&bt[i]);
        p[i]=i+1;
    }
    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;
    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;
    total=0;
    printf("Processt Burst Time tWaiting TimetTurnaround Time\n");
    for(i=0;i<n;i++)
    {
        tat[i]=bt[i]+wt[i];
        total+=tat[i];
        printf("p%d\tt %d\t %d\t\t%d\n",p[i],bt[i],wt[i],tat[i]);
```

```

}
avg_tat=(float)total/n;
printf("Average Waiting Time=%f",avg_wt);
printf("Average Turnaround Time=%fn",avg_tat);
}

```

**Output:**

```

Enter number of process:5
Enter Burst Time:
p1:12
p2:4
p3:5
p4:6
p5:8
Processt Burst Time tWaiting TimetTurnaround Time
p2tt 4tt 0ttt4
p3tt 5tt 4ttt9
p4tt 6tt 9ttt15
p5tt 8tt 15ttt23
p1tt 12tt 23ttt35
Average Waiting Time=10.200000Average Turnaround Time=17.200001n
-----
Process exited after 21.49 seconds with return value 0
Press any key to continue . . . |

```