Indian Institute of Information Technology
Sonepat

Operating Systems Lab
(ITC-403)
Lab File

Submitted To
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LAB 2

Problem: Implementation of SJF scheduling algorithm.

CODE:

```
#include<iostream>

using namespace std;
int main()
{
      int n,temp,tt=0,min,d,i,j;
      float atat=0,awt=0,stat=0,swt=0;
      cout<<"\n";

      cout<<"enter no of process: ";
      cin>>n;
      int a[n],b[n],e[n],tat[n],wt[n];

  cout<<"\n";

      for(i=0;i<n;i++)
      {
            cout<<"enter arival time: ";       //input
            cin>>a[i];
      }
    cout<<"\n";

      for(i=0;i<n;i++)
      {
            cout<<"enter brust time: ";      //input
            cin>>b[i];
      }
      for(i=0;i<n;i++)
      {
         for(j=i+1;j<n;j++)
          {
                if(b[i]>b[j])
                {
                      temp=a[i];
                      a[i]=a[j];
                      a[j]=temp;

                      temp=b[i];
                      b[i]=b[j];
                      b[j]=temp;
                }
          }
      }
      min=a[0];
      for(i=0;i<n;i++)
      {
            if(min>a[i])
            {
                  min=a[i];
                  d=i;
            }
      }
      tt=min;
      e[d]=tt+b[d];
      tt=e[d];

      for(i=0;i<n;i++)
      {
            if(a[i]!=min)
```

```
            {
                  e[i]=b[i]+tt;
                  tt=e[i];
            }
      }
      for(i=0;i<n;i++)
      {

            tat[i]=e[i]-a[i];
            stat=stat+tat[i];
            wt[i]=tat[i]-b[i];
            swt=swt+wt[i];
      }
      atat=stat/n;
      awt=swt/n;
      cout<<"Process  Arrival-time(s)  Burst-time(s)  Waiting-time(s)  Turnaround-time(s)\n";

    for(i=0;i<n;i++)
    {
    cout<<"P"<<i+1<<"              "<<a[i]<<"               "<<b[i]<<"                  "<<wt[i]<<"
      "<<tat[i]<<endl;
    }

    cout<<"awt="<<awt<<" atat="<<atat;  //average waiting time and turn around time
}
```

OUTPUT:

```
os2 } ; if ($?) { .\os2 }

enter no of process: 2

enter arival time: 2000
enter arival time: 3000

enter brust time: 2500
enter brust time: 1500
Process  Arrival-time(s)  Burst-time(s)  Waiting-time(s)  Turnaround-time(s)
P1               3000               1500               1500                3000
P2               2000               2500               0                2500
awt=750 atat=2750
PS C:\Users\ujjwa\OneDrive\Desktop\New folder (2)>
```