CS212: Assignment 3

Md Shabbir Jamal

Department of Computer Science and Engineering
BIT, Mesra, Ranchi
btech10026.20@bitmesra.ac.in

1. WAP to schedule process according to **S**RTF / Shortest Remaining Time First scheduling algorithm

```
    #include<iostream>

using namespace std;
int main()
{
    int a[10],b[10],x[10];
    int waiting[10],turnaround[10],completion[10];
    int i,j,smallest,count=0,time,n;
    double avg=0,tt=0,end;

    cout<<"\nEnter the number of Processes : ";
    cin>>n;
    cout<<"Enter Process Details : \n";
    for(i=0; i<n; i++)
    {
        cout<<"p["<<i+1<<"] : ";
        cout<<"Arrival time : ";
        cin>>a[i];
        cout<<"       ";
        cout<<"Burst time : ";
        cin>>b[i];
    }
    for(i=0; i<n; i++)
        x[i]=b[i];

    b[9]=9999;
    for(time=0; count!=n; time++)
    {
        smallest=9;
        for(i=0; i<n; i++)
        {
            if(a[i]<=time && b[i]<b[smallest] && b[i]>0 )
```

```
                smallest=i;
        }
        b[smallest]--;

        if(b[smallest]==0)
        {
            count++;
            end=time+1;
            completion[smallest] = end;
            waiting[smallest] = end - a[smallest] - x[smallest];
            turnaround[smallest] = end - a[smallest];
        }
    }
    for(i=0; i<n; i++)
    {
        avg = avg + waiting[i];
        tt = tt + turnaround[i];
    }
    cout<<"\nResult : ";
    cout<<"Average waiting time : "<<avg<<endl;
    cout<<"Average Turnaround time : "<<tt;
}
```

Output

```
    Enter the number of Processes : 5
    Enter Process Details :
    p[1] : Arrival time : 3
       Burst time : 1
    p[2] : Arrival time : 1
       Burst time : 4
    p[3] : Arrival time : 4
       Burst time : 2
    p[4] : Arrival time : 0
       Burst time : 6
    p[5] : Arrival time : 2
       Burst time : 3

Result : Average waiting time : 19
Average Turnaround time : 35
```