Dated: 14/04/2021

Experiment No. - 01

Objective:

Calculate average waiting time and average turnaround time using FCFS scheduling algorithm using following input.

Design generic code that will run both input

Program:

```
at1=[6,4,2,8,15]
bt1=[1,3,2,1,3]
at=[]
bt=[]
at=at1.copy()
at. sort()
for i in range(len(at)):
    r= at.index(at[i])
    bt.append(bt1[r])
cf=[]
tat=[]
wt=[]
cf.append(at[0]+bt[0])
for i in range(1,len(at)):
    if at[i]>cf[i-1]:
        cf.append(at[i]+bt[i])
    else:
        cf.append(cf[i-1]+bt[i])
for i in range(len(at)):
    tat.append(cf[i]-at[i])
    wt.append(tat[i]-bt[i])
print("\tAT\tST\tWT\tTAT")
for i in range(len(at)):
    print("P"+str(i+1),at[i],bt[i],wt[i],tat[i],sep="\t")
print("Average Wait time ="+str(round(sum(wt) / len(wt), 2))+" unit")
print("Average Turn Around time ="+str(round(sum(tat) / len(tat), 2))+" unit")
```

Input/Output:

Q1:

Process	Arrival Time	Burst Time	Waiting Time	TAT
P1	0	4	0	4
P2	2	3	2	5
P3	6	5	1	6
P4	8	2	4	6
P5	9	1	5	6
P6	10	3	5	8

```
        AT      ST      WT      TAT
P1      0       4       0       4
P2      2       3       2       5
P3      6       5       1       6
P4      8       2       4       6
P5      9       1       5       6
P6      10      3       5       8
Average Wait time =2.83 unit
Average Turn Around time =5.83 unit
```

Average waiting time = **2.8 Units.**

Average turnaround time = **5.83 Units.**

Q2

Process	Arrival Time	Burst Time	Waiting Time	TAT
P1	6	1	0	1
P2	4	3	0	3
P3	2	2	1	3
P4	8	1	1	2
P5	15	3	0	3

```
     AT    ST    WT    TAT
P1   2     1     0     1
P2   4     3     0     3
P3   6     2     1     3
P4   8     1     1     2
P5   15    3     0     3
Average Wait time =0.4 unit
Average Turn Around time =2.4 unit
```

Average waiting time = **0.4 Units.**
Average turnaround time **= 2.4 Units.**

Result:

We have Successfully implemented FCFS.