EXPERIMENT 5 (F)
ROUND ROBIN SCHEDULING

AIM

Implement Round Robin Scheduling with Arrival Time & Burst Time.

ALGORITHM

STEP 0: START

STEP 1: Declare global variables Q[100], front = -1, rear = -1

STEP 2: Make a structure process p[20] with attributes at, bt, tt, wt ct, left & status.

STEP 3: Make a structure done a[20] with attributes st, ct, name.

ALGORITHM FOR ENQUEUE (int j)

STEP 0: START

STEP 1: If front = -1 & rear = -1 then rear = front = 0.

STEP 2: Rear is incremented and j is inserted Q[rear].

ALGORITHM FOR DEQUEUE ()

STEP 0: START

STEP 1: Declare item and set item = Q[front]

STEP 2: If front = rear, then set

front = rear = -1

STEP 3: Else increment front and then finally return the item.

ALGORITHM FOR MAIN
STEP 0: START

STEP 1: Declare all the required variables like i, j, num, t, k, idle=0 & ls, n

STEP 2: Declare float variables arwt=0 & avtt=0.

STEP 3: Prompt the user to enter the number of processes as n.

STEP 4: Using a for loop, prompt the user to enter the process name, arrival time and burst time.

STEP 5: Enter the time quantum as t.

STEP 6: Initialize variables for a for loop, num (no. of completed processes), i=0 and set num=0

STEP 7: idle variable is set as flag for idle time of the CPU

STEP 8: A loop is set untill all the processes are completed (ls<n)

STEP 9: within each iteration, it enqueues processes that have arrived and are not yet processed (P[j].status ==0 && P[j].at <=i)

STEP 10: Idle time is handled if the queue is empty and idle time

is set to 0 (idle = 0) if there is no idle time.

STEP 11: If the remaining burst time of the process is less than or equal to the time quantum 't' then it completes the process

STEP 12: Else, it processes for the time quantum t and enqueues it back to the queue.

STEP 13: After the loop, calculation is done and prints the completion time, waiting time & Turnaround Time for each process.

Total waiting time & Total Average Turnaround Time is also calculated

STEP 14: Gantt chart is displayed showing the sequence of process executed and their start & completion time

STEP 15: calculates and prints the average waiting time & average Turn Around Time

RESULT

Experiment completed successfully & output obtained.