Ex No.: 6d ROUND ROBIN SCHEDULING

Date : 20.03.2025

Aim :

To implement Round Robin (RR) scheduling technique.

Code:

```
#include <stdio.h>

int main() {
    int n, quantum;
    printf("Enter the number of processes: ");
    scanf("%d", &n);

    int bt[n], at[n], wt[n], tat[n], rt[n], ct[n], completed = 0, time = 0;
    float total_wt = 0, total_tat = 0;

    printf("Enter the Burst time and Arrival time:\n");
    for (int i = 0; i < n; i++) {
        printf("Process %d Burst time: ", i + 1);
        scanf("%d", &bt[i]);
        printf("Process %d Arrival time: ", i + 1);
        scanf("%d", &at[i]);
        rt[i] = bt[i];
    }

    printf("Enter the time quantum: ");
    scanf("%d", &quantum);

    while (completed < n) {
        int done = 1;
        for (int i = 0; i < n; i++) {
            if (rt[i] > 0 && at[i] <= time) {
                done = 0;
                if (rt[i] > quantum) {
                    time += quantum;
                    rt[i] -= quantum;
                } else {
                    time += rt[i];
                    rt[i] = 0;
                    ct[i] = time;
                    tat[i] = ct[i] - at[i];
                    wt[i] = tat[i] - bt[i];
                    total_tat += tat[i];
                    total_wt += wt[i];
                    completed++;
```

```
            }
          }
        }
        if (done) time++;
    }

    float avg_wt = total_wt / n;
    float avg_tat = total_tat / n;

    printf("Processes   Arrival time   Burst time   Completion time   Turn around time
Waiting time\n");
    for (int i = 0; i < n; i++) {
        printf("   %d          %d          %d          %d              %d              %d\n",
            i + 1, at[i], bt[i], ct[i], tat[i], wt[i]);
    }

    printf("Average waiting time = %.2f\n", avg_wt);
    printf("Average turn around time = %.2f\n", avg_tat);

    return 0;
}
```

Output:

```
Enter the number of processes: 3
Enter the Burst time and Arrival time:
Process 1 Burst time: 5
Process 1 Arrival time: 0
Process 2 Burst time: 4
Process 2 Arrival time: 1
Process 3 Burst time:
3
Process 3 Arrival time: 2
Enter the time quantum: 2
Processes   Arrival time   Burst time   Completion time   Turn around time   Waiting time
   1           0            5            12                12                 7
   2           1            4            10                9                  5
   3           2            3            11                9                  6
Average waiting time = 6.00
Average turn around time = 10.00
```

Result:

Thus the implement Round Robin (RR) scheduling technique has been executed successfully.