**Lab Report #09**

**Experiment Name #**  Round Robin (RR) Scheduling Algorithm.

**Aim and Objective:**

The purpose of the experiment is to learn round robin scheduling algorithm and execute a code by using C.

* To learn round robin scheduling algorithm.
* To implement this scheduling algorithm using C.

**Code:**

#include<stdio.h>

int main()

{

int i, limit, total = 0, x, counter = 0, time\_quantum;

int wait\_time = 0, turnaround\_time = 0, arrival\_time[10], burst\_time[10], temp[10];

float average\_wait\_time, average\_turnaround\_time;

printf("\nNumber of Processes:\t");

scanf("%d", &limit);

x = limit;

for(i = 0; i < limit; i++)

{

printf("Arrival Time:\t");

scanf("%d", &arrival\_time[i]);

printf("Burst Time:\t");

scanf("%d", &burst\_time[i]);

temp[i] = burst\_time[i];

}

printf("\nTime Quantum:\t");

scanf("%d", &time\_quantum);

printf("\nProcess ID\t\tBurst Time\t Turnaround Time\t Waiting Time\n");

for(total = 0, i = 0; x != 0;)

{

if(temp[i] <= time\_quantum && temp[i] > 0)

{

total = total + temp[i];

temp[i] = 0;

counter = 1;

}

else if(temp[i] > 0)

{

temp[i] = temp[i] - time\_quantum;

total = total + time\_quantum;

}

if(temp[i] == 0 && counter == 1)

{

x--;

printf("\nProcess[%d]\t\t%d\t\t %d\t\t\t %d", i + 1, burst\_time[i], total - arrival\_time[i], total - arrival\_time[i] - burst\_time[i]);

wait\_time = wait\_time + total - arrival\_time[i] - burst\_time[i];

turnaround\_time = turnaround\_time + total - arrival\_time[i];

counter = 0;

}

if(i == limit - 1)

{

i = 0;

}

else if(arrival\_time[i + 1] <= total)

{

i++;

}

else

{

i = 0;

}}

average\_wait\_time = wait\_time \* 1.0 / limit;

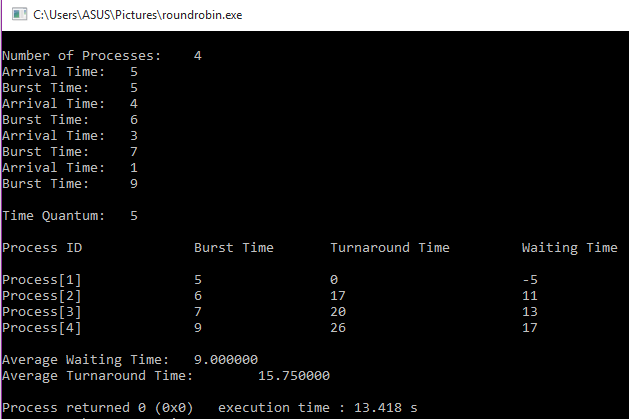
average\_turnaround\_time = turnaround\_time \* 1.0 / limit;

printf("\n\nAverage Waiting Time:\t%f", average\_wait\_time);

printf("\nAverage Turnaround Time:\t%f\n", average\_turnaround\_time);

return 0;}

**Output:**



**Conclusion:**

By following these steps one can perform round robin scheduling algorithm using c. In this algorithm a time quantum is defined and it’s preemptive in nature. It is quite important CPU scheduling in operation system.