### Write a C program to simulate Rate monotonic scheduling.

**PROGRAM:**

#include <stdio.h>

#include <math.h>

int main() {

int n, i;

printf("Enter the number of processes:");

scanf("%d", &n);

int burst[n], period[n];

printf("Enter the CPU burst times:\n");

for (i = 0; i < n; i++) {

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

}

printf("Enter the time periods:\n");

for (i = 0; i < n; i++) {

scanf("%d", &period[i]);

}

int lcm = period[0];

for (i = 1; i < n; i++) {

int a = lcm, b = period[i];

while (b != 0) {

int temp = b;

b = a % b;

a = temp;

}

lcm = (lcm \* period[i]) / a;

}

printf("LCM=%d\n\n", lcm);

printf("Rate Monotone Scheduling:\n");

printf("PID\tBurst\tPeriod\n");

for (i = 0; i < n; i++) {

printf("%d\t%d\t%d\n", i + 1, burst[i], period[i]);

}

float utilization = 0.0;

for (i = 0; i < n; i++) {

utilization += (float)burst[i] / period[i];

}

float bound = n \* (pow(2, 1.0 / n) - 1);

printf("\n%.6f <= %.6f =>%s\n", utilization, bound, (utilization <= bound) ? "true" : "false");

return 0;

}

**OUTPUT :**

