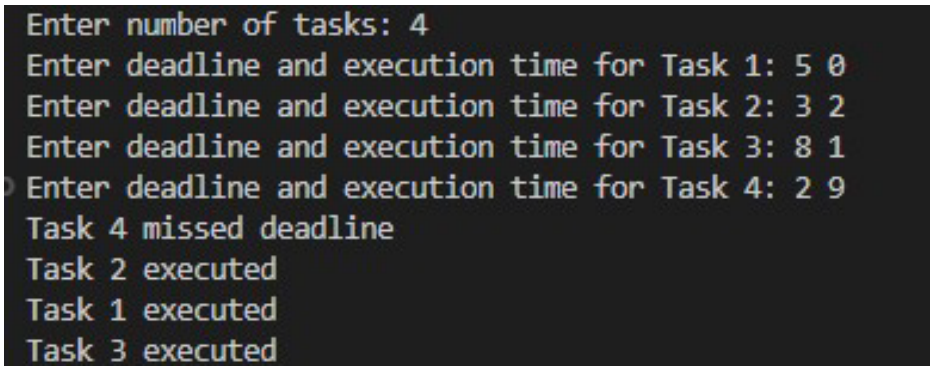
Write a C program to stimulate Real-time CPU Scheduling algorithms for Earliest-deadline First

```
#include <stdio.h>
#include <stdlib.h>

typedef struct {
   int id, deadline, exec_time;
} Task;

int cmp(const void *a, const void *b) {
   return ((Task *)a)->deadline - ((Task *)b)->deadline;
}

void edf(Task tasks[], int n) {
   qsort(tasks, n, sizeof(Task), cmp); // Sort by deadline
int time = 0;     for (int i = 0; i < n; i++) {
       if (time + tasks[i].exec_time <= tasks[i].deadline)
{             time += tasks[i].exec_time;
           printf("Task %d executed\n", tasks[i].id);
       } else {
           printf("Task %d missed deadline\n", tasks[i].id);
       }
   }
}

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

   Task tasks[n];     for
(int i = 0; i < n; i++) {
       printf("Enter deadline and execution time for Task %d: ", i + 1);
tasks[i].id = i + 1;
       scanf("%d %d", &tasks[i].deadline, &tasks[i].exec_time);
   }

   edf(tasks, n);
   return 0;
}
```

OUTPUT:


Enter number of tasks: 4
Enter deadline and execution time for Task 1: 5 0
Enter deadline and execution time for Task 2: 3 2
Enter deadline and execution time for Task 3: 8 1
Enter deadline and execution time for Task 4: 2 9
Task 4 missed deadline
Task 2 executed
Task 1 executed
Task 3 executed