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8) C code for Earliest deadline first:

```
#include<stdlib.h>
#include<stdio.h>
#define MAX_tasks 10
typedef struct {
    int p;
    int c;
    int d;
    int rt;
    int nd;
    int id;
} Task;

void Input(TASK tsks[], int *n_tsk) {
    printf("Enter no.of tasks (Max %d):", MAX_TSKS);
    scanf("%d", n_tsk);
    if(*n_tsk > MAX_TSKS){
        printf("no. of tasks exceeds the max limit
            of. %d. \n", MAX_TSKS);
        exit(EXIT_FAILURE);
    }
    for(int i=0; i<*n_tsk; i++) {
        tsks[i].id = i+1;
        printf("Enter period of task %d:", i+1);
        scanf("%d", &tsks[i].p);
        printf("Enter Execution time of task %d:
            i+1);
        scanf("%d", &tsks[i].c);
        printf("Enter deadline of task %d:", i+1);
        scanf("%d", &tasks[i].d);
        tasks[i].rt = tasks[i].c;
        tasks[i].nd = tsks[i].d;
    }
```

```
void EDF(Task tsks[], int n_tsk, int tf){
    printf("\n Earliest_deadline first \n");
    for(int t=0; t<tf; t++){
        int s_tsk = -1;
        for(int i=0; i<n_tsk; i++){
            if(t%tsks[i].P==0){
                tasks[i].rt = tsks[i].C;
                tsks[i].nd = t+tsks[i].d;
            }
        }
        for(int i=0; i<n_tsk; i++){
            if(tsks[i].rt>0 && (s_tsk==-1 ||
                tsks[i].nd < tsks[s_tsk].nd)){
                s_tsk = i;
            }
        }
        if(s_tsk!=-1){
            printf("Time %d: Task %d\n", t,
                tasks[s_tsk].id);
            tsks[s_tsk].rt--;
        }else{
            if(t<5) printf("Time %d: Idle\n", t);
        }
    }
}

int main(){
    Task tsks[MAX_TSKS];
    int n_tsk;
    int tf;
    Input(tsks, &n_tsk);
    Printf("Enter time frame for simulation");
    scanf("%d", &tf);
    EDF(
```

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8. Enter no. of tasks: 3
Enter T of task 1: 20
Enter Execution time of task: 3
Enter T of task 2: 5
Enter execution time of task 2: 2
Enter T: of task 3: 10
Enter execution time of task 3: 2

time 0: task 2
time 1: task 2
time 2: task 3
tim 3: task 3
time 4: task 1
time 5: task 2

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