Task1

- The code:

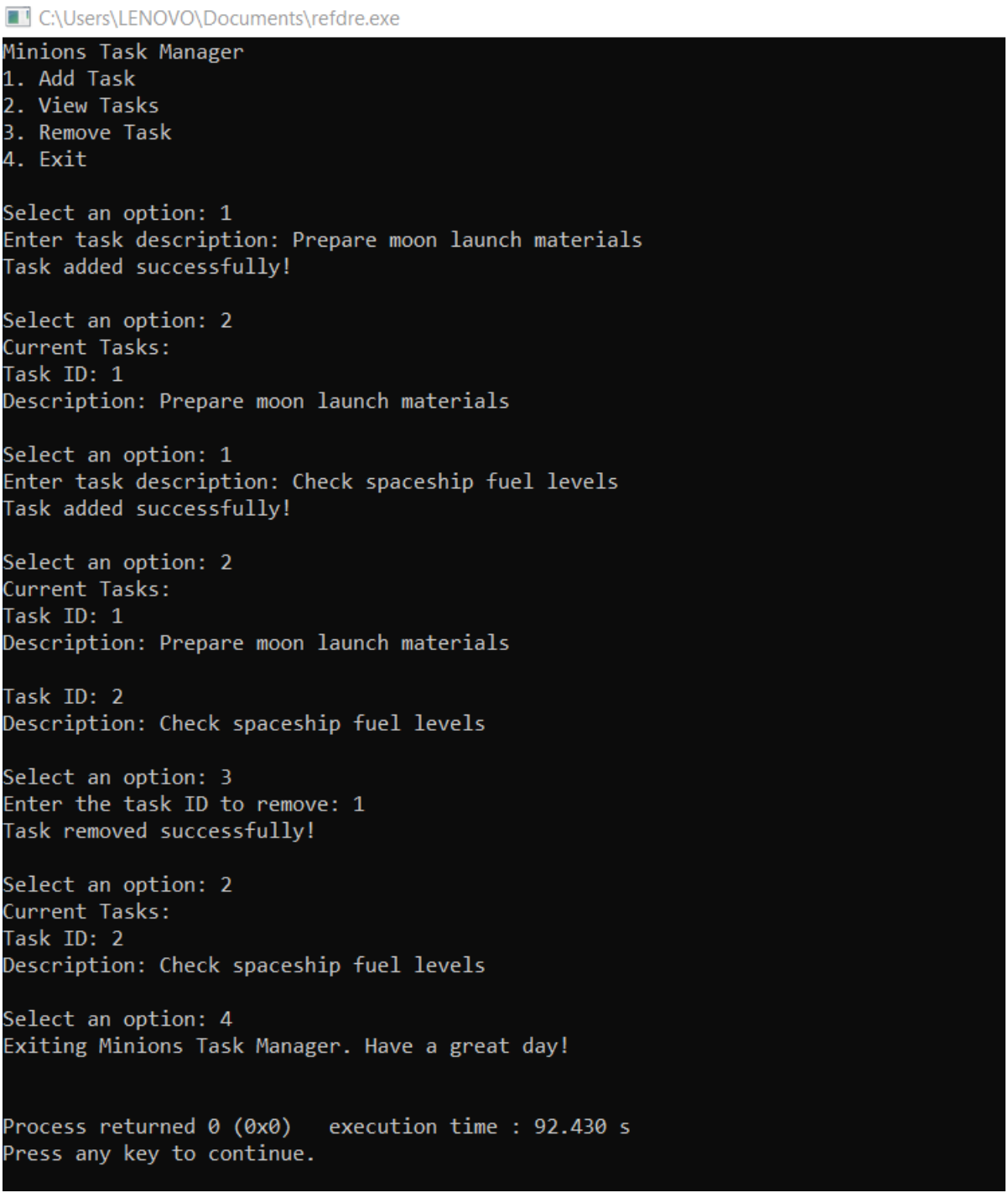
```
#include <stdio.h>
#include <stdlib.h>
#define MAX_TASKS 100
typedef struct
{
 int id;
 char description[100];
} Task;
Task taskList[MAX_TASKS];
int numTasks = 0;
int isIdExist(int id) {
 for (int i = 0; i < numTasks; i++) {
 if (taskList[i].id == id) {
 return 1;
 }
 }
 return 0;
}
void add_Task() {
 if (numTasks >= MAX_TASKS) {
 printf("Task list is full. Cannot add more tasks.\n");
 return;
 }
```

```
 Task newTask;
 printf("Enter task description: ");
 scanf(" %[^\n]", newTask.description);
 newTask.id = numTasks + 1;
 taskList[numTasks++] = newTask;
 printf("Task added successfully!\n\n");
}
int view_Tasks() {
 if (numTasks == 0) {
 printf("No tasks found.\n");
 return;
 }
 printf("Current Tasks:\n");
 for (int i = 0; i < numTasks; i++) {
 printf("Task ID: %d\nDescription: %s\n\n", taskList[i].id, taskList[i].description);
 }
}
void remove_Task() {
 if (numTasks == 0) {
 printf("No tasks found.\n");
 return;
 }
 int taskId;
 printf("Enter the task ID to remove: ");
 scanf("%d", &taskId);
 int foundIndex = -1;
 for (int i = 0; i < numTasks; i++) {
 if (taskList[i].id == taskId) {
```

```
 foundIndex = i;
 break;
 }
 }
 if (foundIndex == -1) {
 printf("Task with ID %d not found.\n", taskId);
 return;
 }
 for (int i = foundIndex; i < numTasks - 1; i++) {
 taskList[i] = taskList[i + 1];
 }
 numTasks--;
 printf("Task removed successfully!\n\n");
}
int main() {

 printf("Minions Task Manager\n");
 printf("1. Add Task\n");
 printf("2. View Tasks\n");
 printf("3. Remove Task\n");
 printf("4. Exit\n\n");

 while(1){

 int optian;
 printf("Select an option: ");
 scanf("%d",&optian);
```

```
 switch (optian) {
 case 1:
 add_Task();
 break;
 case 2:
 view_Tasks();
 break;
 case 3:
 remove_Task();
 break;
 case 4:
 printf("Exiting Minions Task Manager. Have a great day!\n\n");
 exit(0);
 default:
 printf("Invalid choice. Please try again.\n");
 }
 }
 return 0;
}
```

- Screen of the output:



Bonus

- The code:

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

#define MAX_TASKS 100



typedef struct
{
    int id;
    char description[100];
    bool completed;
} Task;

Task taskList[MAX_TASKS];
int numTasks = 0;

void add_Task()
    {
    if (numTasks == MAX_TASKS)
        {
        printf("Task list is full. Cannot add more tasks.\n");
        return;
```

```
        }


    Task newTask;
    printf("Enter task description: ");
    fgets(newTask.description,100, stdin);
    newTask.description[strcspn(newTask.description, "\n")] = '\0'; // Remove trailing newline
    newTask.completed = false;
    newTask.id = numTasks + 1;


    taskList[numTasks] = newTask;
    numTasks++;


    printf("Task added successfully.\n\n");
}


void view_Tasks() {
    if (numTasks == 0) {
        printf("No tasks found.\n");
        return;
    }


    printf("ID\tDescription\t\tCompleted\n");
    printf("-----------------------------------------\n");
    for (int i = 0; i < numTasks; i++) {
        printf("%d\t%s\t\t%s\n", taskList[i].id, taskList[i].description, taskList[i].completed ? "Yes" : "No");
    }
}
```

```
void remove_Task() {
    if (numTasks == 0) {
        printf("No tasks found.\n");
        return;
    }

    int taskId;
    printf("Enter the ID of the task to remove: ");
    scanf("%d", &taskId);

    int taskIndex = -1;
    for (int i = 0; i < numTasks; i++) {
        if (taskList[i].id == taskId) {
            taskIndex = i;
            break;
        }
    }

    if (taskIndex == -1) {
        printf("Task with ID %d not found.\n", taskId);
        return;
    }

    // Shift remaining tasks to fill the gap
    for (int i = taskIndex; i < numTasks - 1; i++) {
        taskList[i] = taskList[i + 1];
    }
```

```
    numTasks--;
    printf("Task with ID %d removed successfully.\n\n", taskId);
}

void mark_Task_As_Completed() {
    if (numTasks == 0) {
        printf("No tasks found.\n\n");
        return;
    }

    int taskId;
    printf("Enter the ID of the task to mark as completed: ");
    scanf("%d", &taskId);

    for (int i = 0; i < numTasks; i++) {
        if (taskList[i].id == taskId) {
            taskList[i].completed = true;
            printf("Task with ID %d marked as completed.\n\n", taskId);
            return;
        }
    }

    printf("Task with ID %d not found.\n", taskId);
}

void view_Completed_Tasks() {
    printf("Completed Tasks:\n\n");
```

```
    printf("ID\tDescription\n\n");
    printf("----------------------\n");

    bool foundCompletedTasks = false;
    for (int i = 0; i < numTasks; i++) {
        if (taskList[i].completed) {
            printf("%d\t%s\n", taskList[i].id, taskList[i].description);
            foundCompletedTasks = true;
        }
    }

    if (!foundCompletedTasks) {
        printf("No completed tasks found.\n\n");
    }
}

void view_Incomplete_Tasks() {
    printf("Incomplete Tasks:\n");
    printf("ID\tDescription\n");
    printf("----------------------\n");

    bool foundIncompleteTasks = false;
    for (int i = 0; i < numTasks; i++) {
        if (!taskList[i].completed) {
            printf("%d\t%s\n", taskList[i].id, taskList[i].description);
            foundIncompleteTasks = true;
        }
    }
```

```
    if (!foundIncompleteTasks) {
        printf("No incomplete tasks found.\n\n");
    }
}

int main() {
        printf("\nTask Management System\n");
        printf("1. Add Task\n");
        printf("2. View Tasks\n");
        printf("3. Remove Task\n");
        printf("4. Mark Task as Completed\n");
        printf("5. View Completed Tasks\n");
        printf("6. View Incomplete Tasks\n");
        printf("7. Exit\n\n\n");

    int option;

    while (1)
        {
        printf("Select an option: ");
        scanf("%d", &option);
        getchar();

        switch (option) {
                case 1:
                add_Task();
                break;
```

```
            case 2:
                view_Tasks();
                break;
            case 3:
                remove_Task();
                break;
            case 4:
                mark_Task_As_Completed();
                break;
            case 5:
                view_Completed_Tasks();
                break;
            case 6:
                view_Incomplete_Tasks();
                break;
            case 7:
                exit(0);
            default:
                printf("Invalid choice. Please try again.\n");
        }
    }

    return 0;
}
```

- Screen of the output: