



Comsats University Islamabad

(Attock Campus)

Project

(Task Manager System)

Submitted by:

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SP23-BSE-071

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Project Objective

This project is an implementation of a task management technique using a C++ individually connected list. Users are allowed to add, view, and remove tasks based on their preference levels. Every task has its own writing, choice, and ID. Tasks are added to the list in descending priority order, ensuring that Tasks with taller arrangements are completed first. By entering the allure ID, the user can remove a specific task or terminate the work that goes along with their capital preference.

This project helps the user to easily manage their organization tasks. The technology allows users to freely perform these moves by specifying a built-in console card for interaction. Memory management is skillfully managed, and upon program termination, all knots are eliminated. This exercise identifies a fundamental yet effective task-accomplishment and task-organization habit.

Operations Performed in Project

1. Add a New Task:

Adds a new task to the list based on its priority.

- **Working:**
 - You enter the task ID, description, and priority.

- The system places the new task in the correct position, so tasks with higher priority appear first in the list.

2. View All Tasks:

Displays a list of all tasks currently in the system.

- **Working:**
 - The system goes through each task one by one, showing its ID, description, and priority.

3. Remove the Highest Priority Task:

Removes the task with the highest priority from the list.

- **Working:**
 - The system deletes the first task in the list, as it has the highest priority.

4. Remove a Task by ID:

Deletes a specific task based on its unique ID.

- **Working:**
 - You enter the ID of the task you want to remove.
 - The system searches for the task with that ID and deletes it from the list.

5. Exit the System:

Closes the program and cleans up any memory used.

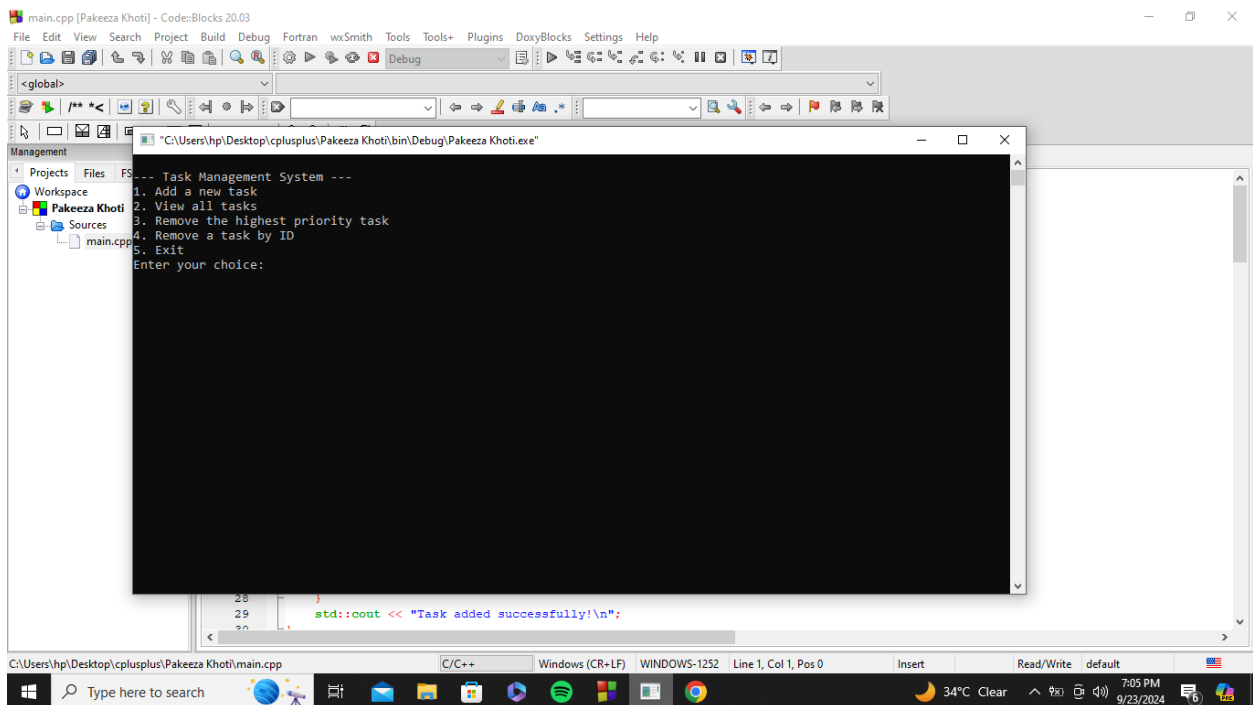
- Working:

- The system deletes all tasks in the list to ensure there are no memory leaks before exiting the program.

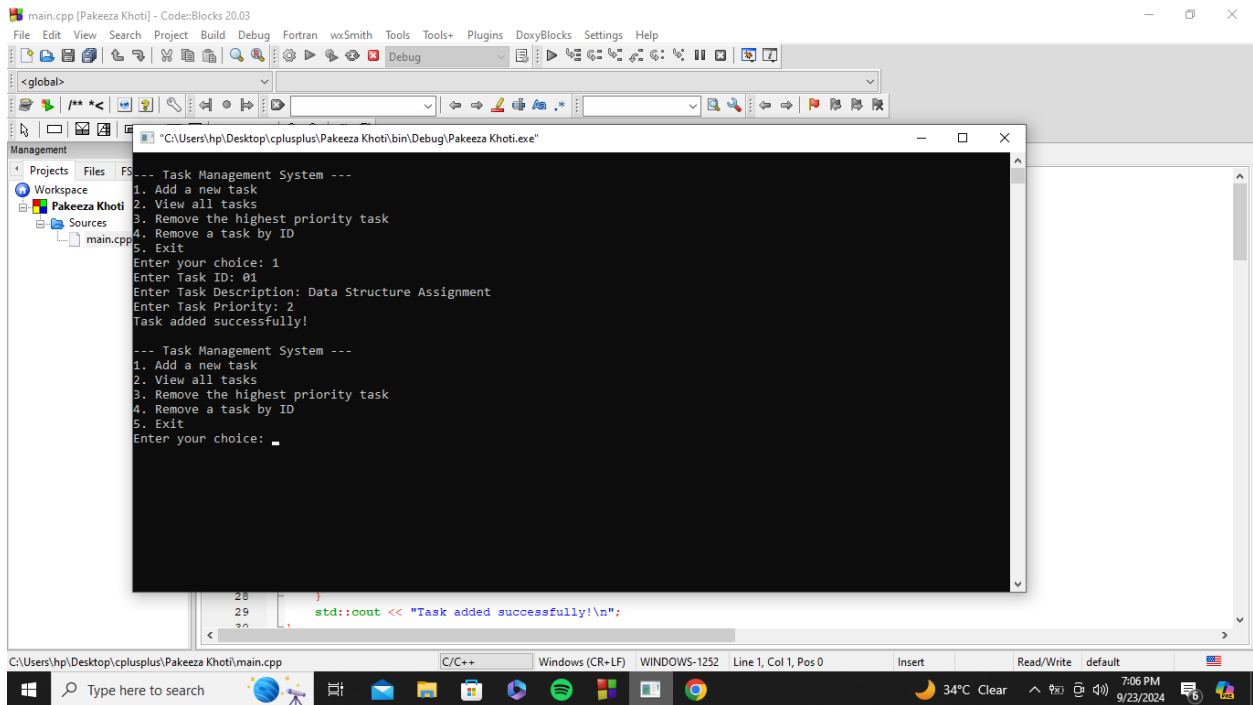
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Screen Shots

1. Overview



2. Adding Tasks

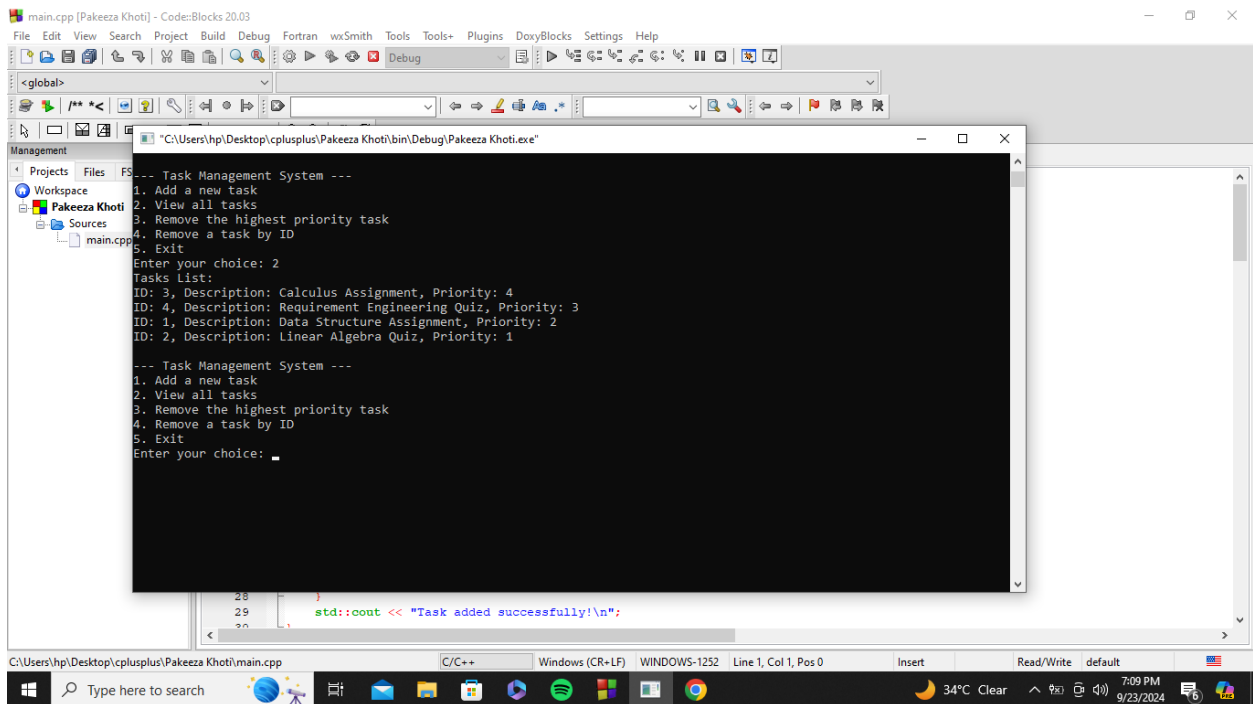


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main.cpp [Pakeeza Khoti] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
C:\Users\hp\Desktop\cplusplus\Pakeeza Khoti\bin\Debug\Pakeeza Khoti.exe
Management
  Projects Files FS
  Workspace
  Pakeeza Khoti
  Sources
  main.cpp
  main.cpp
  28
  29
  29
  std::cout << "Task added successfully!\n";

--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: 1
Enter Task ID: 01
Enter Task Description: Data Structure Assignment
Enter Task Priority: 2
Task added successfully!

--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: _
```

3. Viewing Tasks

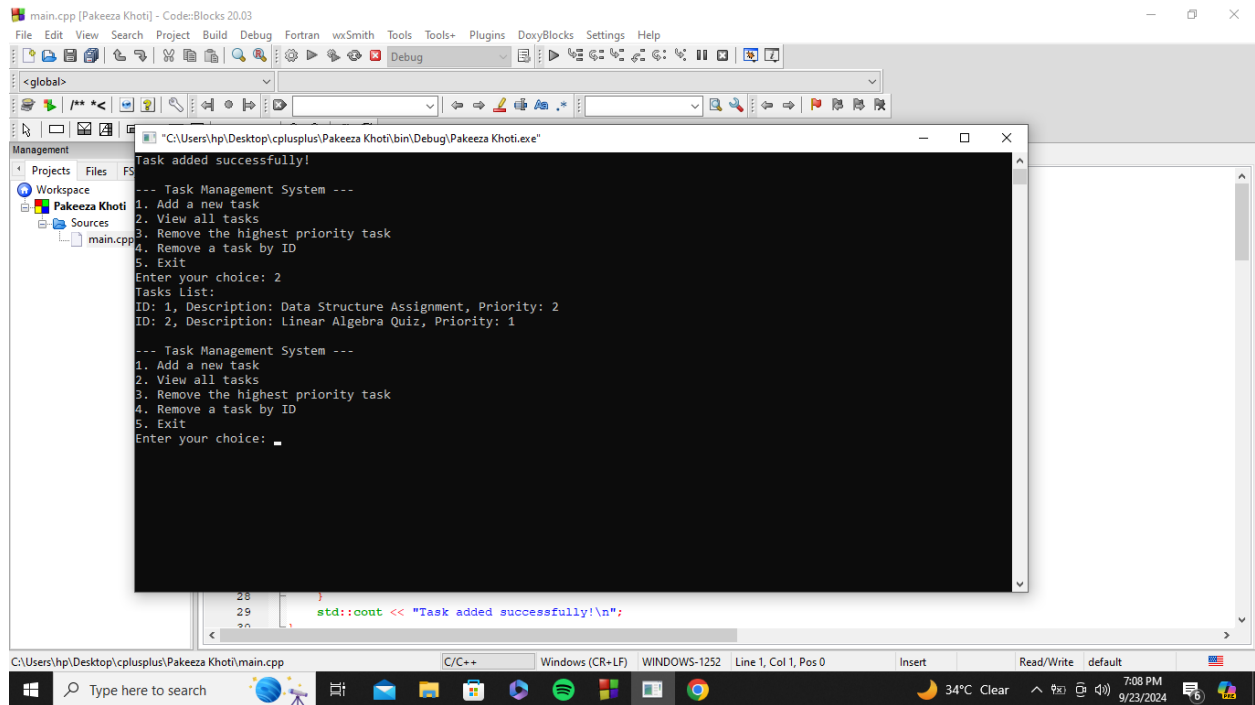


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Management
  Projects Files FS
  Workspace
  Pakeeza Khoti
  Sources
  main.cpp
  main.cpp
  28
  29
  29
  std::cout << "Task added successfully!\n";

--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: 2
Tasks List:
ID: 3, Description: Calculus Assignment, Priority: 4
ID: 4, Description: Requirement Engineering Quiz, Priority: 3
ID: 1, Description: Data Structure Assignment, Priority: 2
ID: 2, Description: Linear Algebra Quiz, Priority: 1

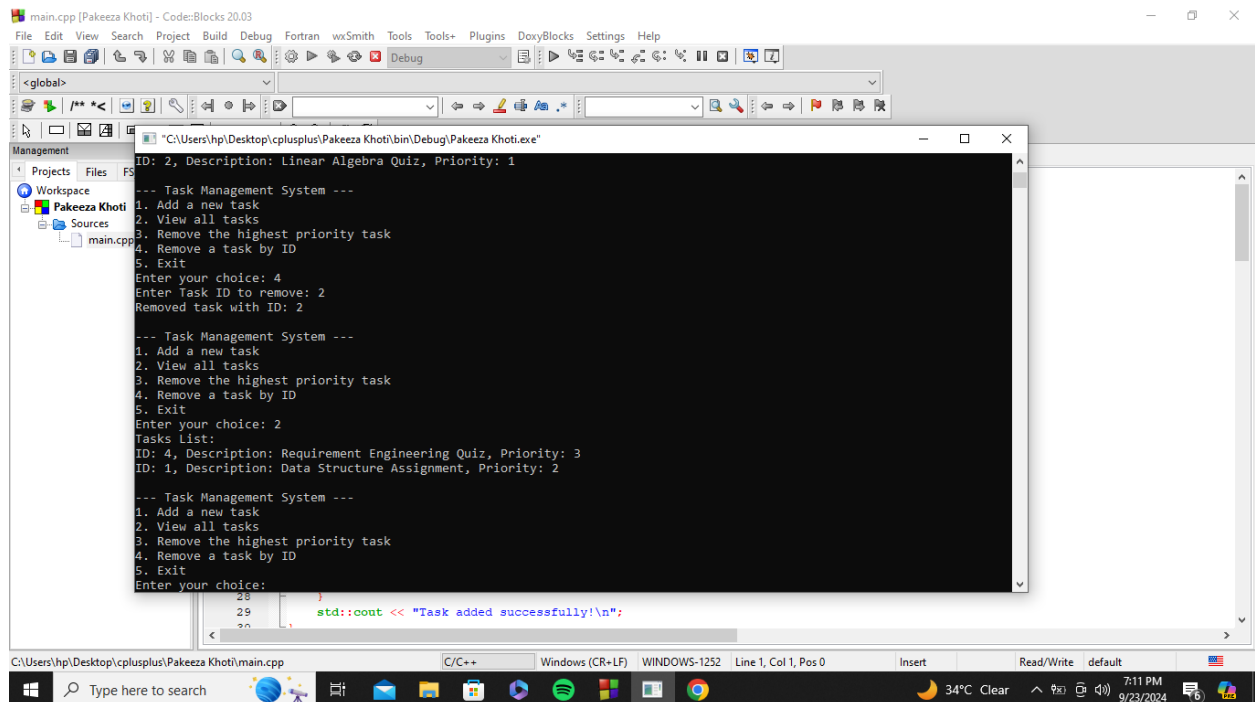
--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: _
```

1. Deleting by Highest priority



```
main.cpp [Pakeeza Khoti] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
C:\Users\hp\Desktop\cplusplus\Pakeeza Khoti\bin\Debug\Pakeeza Khoti.exe
Task added successfully!
--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: 2
Tasks List:
ID: 1, Description: Data Structure Assignment, Priority: 2
ID: 2, Description: Linear Algebra Quiz, Priority: 1
--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: _
28
29
std::cout << "Task added successfully!\n";
```

1. Deleting by Task ID



```
main.cpp [Pakeeza Khoti] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
C:\Users\hp\Desktop\cplusplus\Pakeeza Khoti\bin\Debug\Pakeeza Khoti.exe
ID: 2, Description: Linear Algebra Quiz, Priority: 1
--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: 4
Enter Task ID to remove: 2
Removed task with ID: 2
--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice: 2
Tasks List:
ID: 4, Description: Requirement Engineering Quiz, Priority: 3
ID: 1, Description: Data Structure Assignment, Priority: 2
--- Task Management System ---
1. Add a new task
2. View all tasks
3. Remove the highest priority task
4. Remove a task by ID
5. Exit
Enter your choice:
28
29
std::cout << "Task added successfully!\n";
```

Learning Points

By making this project, I have learned how to implement and manipulate linked lists in C++, including adding, deleting, and traversing nodes. I get experience in managing memory allocation and preventing memory leaks. It enhanced my understanding of how to sort and prioritize tasks using a simple data structure. I also developed skills in creating user-friendly small design interaction menus. Overall, it was a practical assignment in combining data structures with problem-solving and I enjoyed a lot.

I face some problems for converting the word document to PDF. But Overall I enjoyed a lot its interesting.