

Assignment -3 : LinkedList Implementation

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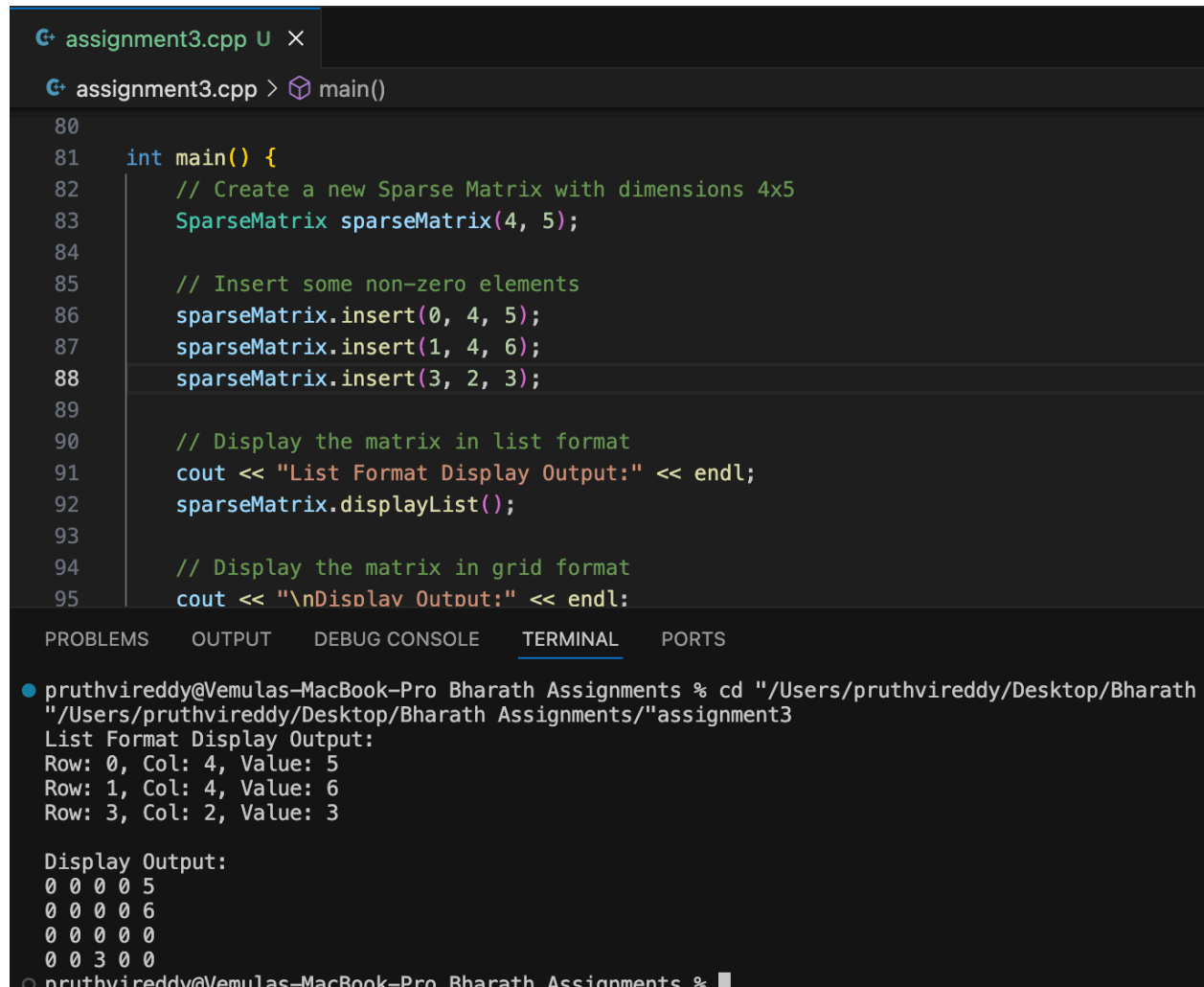
Advanced Algorithms

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GitHub repository : <https://github.com/RajaBharathReddyM/assignment1/>

Assignment 3 : Indices



```
80
81 int main() {
82     // Create a new Sparse Matrix with dimensions 4x5
83     SparseMatrix sparseMatrix(4, 5);
84
85     // Insert some non-zero elements
86     sparseMatrix.insert(0, 4, 5);
87     sparseMatrix.insert(1, 4, 6);
88     sparseMatrix.insert(3, 2, 3);
89
90     // Display the matrix in list format
91     cout << "List Format Display Output:" << endl;
92     sparseMatrix.displayList();
93
94     // Display the matrix in grid format
95     cout << "\nDisplav Output:" << endl;
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS

```
● pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments % cd "/Users/pruthvireddy/Desktop/Bharath
"/Users/pruthvireddy/Desktop/Bharath Assignments/"assignment3
List Format Display Output:
Row: 0, Col: 4, Value: 5
Row: 1, Col: 4, Value: 6
Row: 3, Col: 2, Value: 3

Display Output:
0 0 0 0 5
0 0 0 0 6
0 0 0 0 0
0 0 3 0 0
pruthvireddy@Vemulas-MacBook-Pro Bharath Assignments %
```

1) How long did you spend on this assignment ?

I spent approximately 5 hours on this assignment. This time included reading the instructions, understanding the requirements, writing the code, debugging, and testing the final implementation.

2) Based on your effort, What letter grade would you say you earned ?

Based on my effort, I would give myself an A. I dedicated significant time to understanding the task, writing clean and functional code, and ensuring that all requirements were met.

3) Based on your solution, what letter grade would you say you earned ?

Based on my solution, I would say I earned an A. The code functions correctly, meets all the specifications, and both display outputs are accurate and aligned with the expectations.

4) Provide a summary of what doesn't work in your solution, along with an explanation of how you attempted to solve the problem and where you feel you struggled ?

I initially struggled with managing the insertion of nodes into the linked list while ensuring that the nodes were correctly ordered by their positions. I tackled this by carefully checking the insertion logic and debugging through print statements to verify each step. My main challenge was to implement the grid display to correctly align the values and zeros, but after understanding the row and column indexing, I was able to solve it effectively.