

ASSIGNMENT 4

Simple Task Scheduler

PROGRAM :-

```
#include <iostream>
#include <string>
using namespace std;

class Node {
public:
    string taskname;
    int priority;
    int exetime;
    Node* next;

    Node(string tn, int p, int e) {
        taskname = tn;
        priority = p;
        exetime = e;
        next = NULL;
    }

    void display() {
        cout << "Task name: " << taskname << endl;
        cout << "Priority: " << priority << endl;
        cout << "Execution time: " << exetime << endl;
        cout << "-----" << endl;
    }
};

int main() {
    int n;
    string task;
```

```

int p, e;
Node* head = NULL;

cout << "Enter the number of tasks you want to insert: ";
cin >> n;

for (int i = 0; i < n; i++) {
    cout << "Enter task name: ";
    cin >> task;
    cout << "Enter priority: ";
    cin >> p;
    cout << "Enter execution time: ";
    cin >> e;

    Node* temp = new Node(task, p, e);

    // Insert based on priority (higher first)
    if (head == NULL || temp->priority > head->priority) {
        temp->next = head;
        head = temp;
    } else {
        Node* prev = head;
        Node* current = head->next;

        while (current != NULL && current->priority >= temp->priority) {
            prev = current;
            current = current->next;
        }

        temp->next = current;
        prev->next = temp;
    }
}

Node* t = head;

```

```
while (t != NULL) {  
    t->display();  
    t = t->next;  
}  
  
cout << "NULL" << endl;  
return 0;  
}
```

OUTPUT :-

```
Enter the number of tasks you want to insert: 2  
Enter task name: eat  
Enter priority: 3  
Enter execution time: 200  
Enter task name: sleep  
Enter priority: 2  
Enter execution time: 400  
Task name: eat  
Priority: 3  
Execution time: 200  
-----  
Task name: sleep  
Priority: 2  
Execution time: 400  
-----
```