**Future Work :**

In this paper we have proposed Efficient task scheduling based on the MO-ACO algorithm, which considers the makespan, cost and load balancing. The algorithm establishes the constraint function of task completion time, cost and load, improves the basic ant colony algorithm heuristic function and pheromone update rule, and adopts the pseudo - random transition probability rule in ant colony system. We experimented with the algorithm in the multithreading using python and the experiment proved the effectiveness of the algorithm. In practice, cloud computing is more complex. In future research, we will consider the dependency between tasks, increase the number of tasks in the experiment, consider the factors such as customer satisfaction.