

Data Structures Lab

[15-Mar-2024]

Note: The algorithms for the following graph problems should be implemented using the adjacency list representation of the input graph.

1. Implement the Prim's MST algorithm in a straightforward way. **[5]**

Test Case: There are two test cases attached for this problem. The file format is as below.

```
[number_of_vertices] [number_of_edges]
[one_endpoint_of_edge_1] [other_endpoint_of_edge_1] [edge_1_cost]
[one_endpoint_of_edge_2] [other_endpoint_of_edge_2] [edge_2_cost]
```

...

Edge costs can be negative, and are not necessarily distinct.

Answer to First test case is: 18.

2. Implement Prim's algorithm using Heap Data structure. And test your program on the attached two test cases. **[5]**