

LAB3

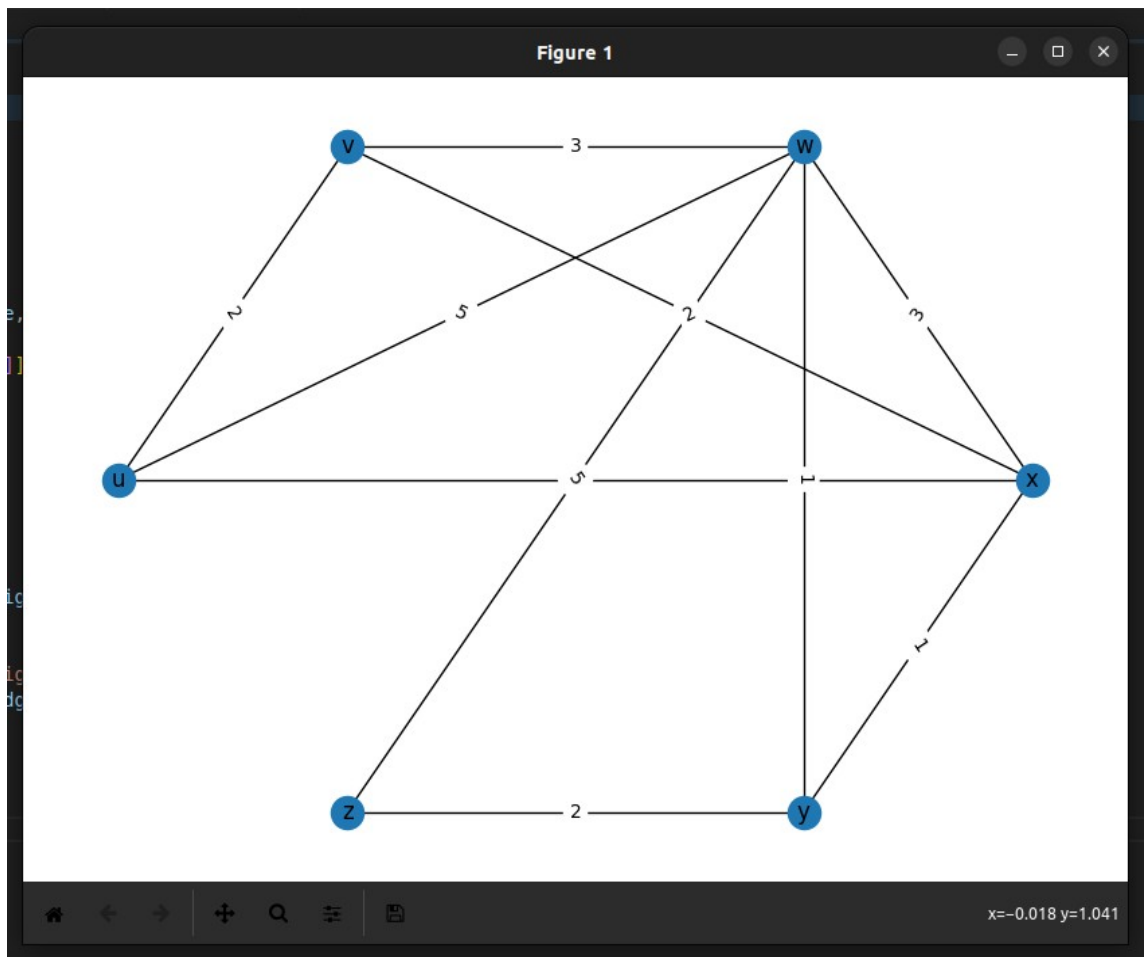
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Dijkstra's Algorithm pseudocode

```
DIJKSTRA( $G, w, s$ )  
1  INITIALIZE-SINGLE-SOURCE( $G, s$ )  
2   $S = \emptyset$   
3   $Q = G.V$   
4  while  $Q \neq \emptyset$   
5       $u = \text{EXTRACT-MIN}(Q)$   
6       $S = S \cup \{u\}$   
7      for each vertex  $v \in G.Adj[u]$   
8          RELAX( $u, v, w$ )
```

Results of visualizing the input graph



Output of using networkx

Forwarding Table

```
{  
'v': ['u', 'v'],  
'w': ['u', 'x'],  
'x': ['u', 'x'],  
'y': ['u', 'x'],  
'z': ['u', 'x']  
}
```

Output of using dijkstra's algorithm

Forwarding Table

```
{  
'v': ['u', 'v'],  
'w': ['u', 'x'],  
'x': ['u', 'x'],  
'y': ['u', 'x'],  
'z': ['u', 'x']  
}
```