Sectioon z lab practice

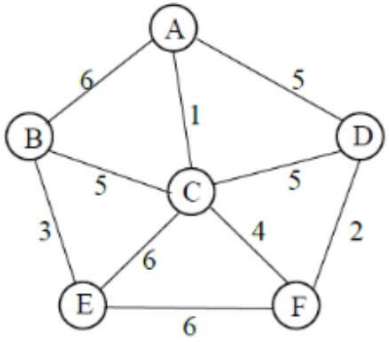
01 April 2025 08:39

| | $T_0$ | $T_1$ | $T_2$ | $T_3$ | $T_4$ | $T_5$ | $T_6$ | $T_7$ | $T_8$ | $T_9$ | $T_{10}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| s | 1 | 3 | 0 | 5 | 3 | 5 | 6 | 8 | 8 | 2 | 12 |
| $f_i$ | 4 | 5 | 6 | 7 | 9 | 9 | 10 | 11 | 12 | 14 | 16 |
| | | × | × | ✓ | × | × | × | ✓ | × | × | ✓ |

4

$T_0$, $T_3$, $T_7$, $T_{10}$

$(4<5)$ $(7<8)$ $(12>11)$.



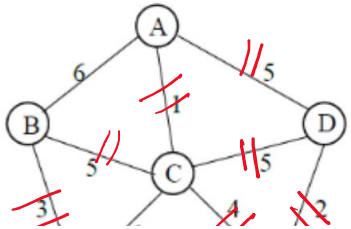

Solve by KRUSKAL && Prims.

Find MST ??

$G(N, E) \longrightarrow G'(N, N-1)$

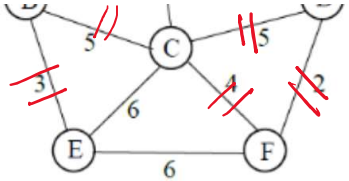
① Loop/cycle ✗.

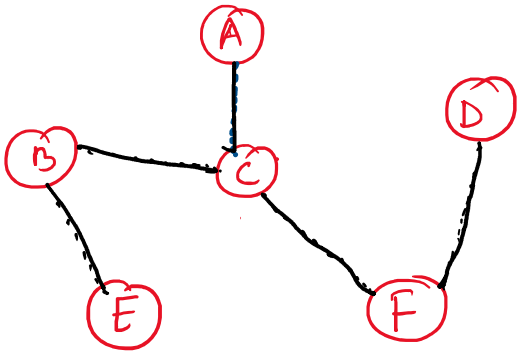
② Connected.




| Node From | Node To | Weight. |
|---|---|---|
| A | C | 1 ✓ |
| D | F | 2 ✓ |

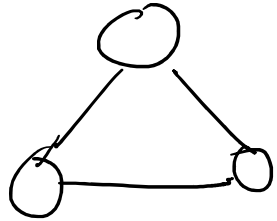
1+2+3+4

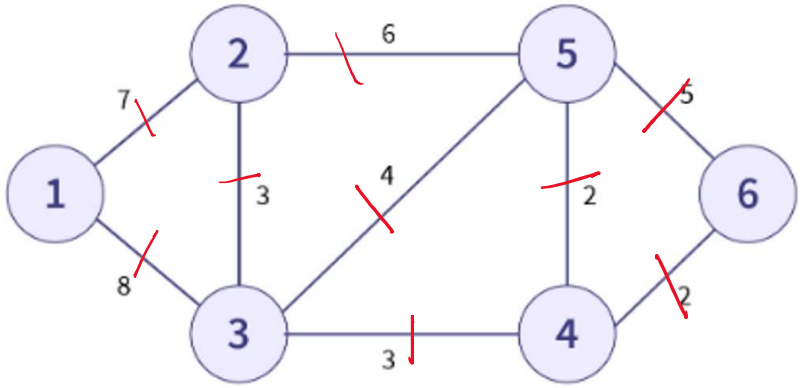


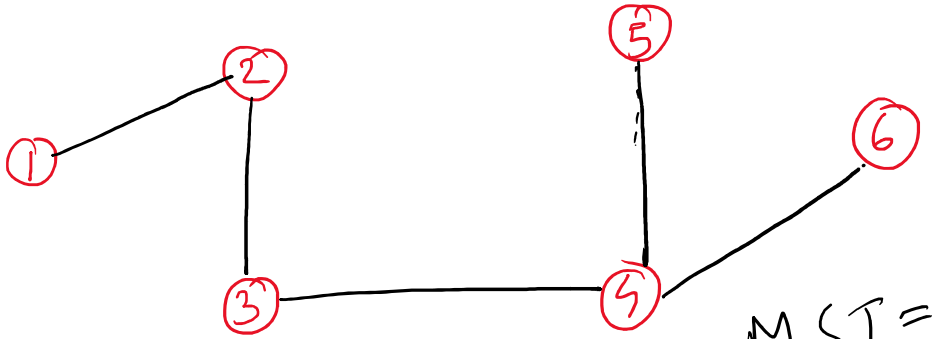

| | | |
|---|---|---|
| A | C | 1 |
| D | F | 2 |
| B | E | 3 |
| C | F | 4 |
| B | C | 5 |
| C | D | 5 |
| A | D | 5 |
| A | B | 6 |
| C | E | 6 |
| E | F | 6 |

1+2+3+4
+5
$= \frac{5 \times 6}{2}$
$= 15$



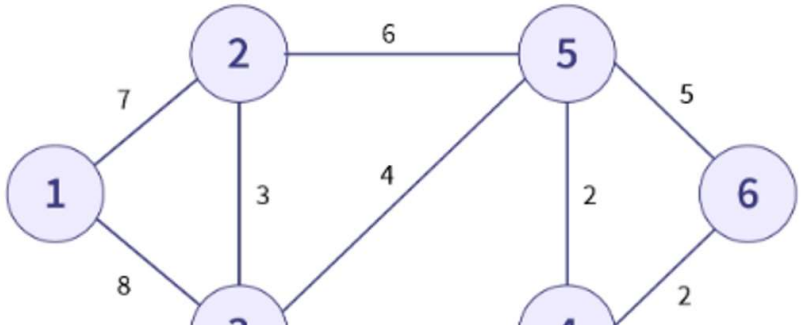



| Node from | Node To | Weight |
|---|---|---|
| 4 | 5 | 2 ✓ |
| 4 | 6 | 2 ✓ |
| 2 | 3 | 3 ✓ |
| 3 | 4 | 3 ✓ |
| 3 | 5 | 4 ✗ Loop |
| 5 | 6 | 5 ✗ Loop |
| 2 | 5 | 6 ✗ Loop |
| 1 | 2 | 7 ✓ |
| 1 | 3 | 8 |

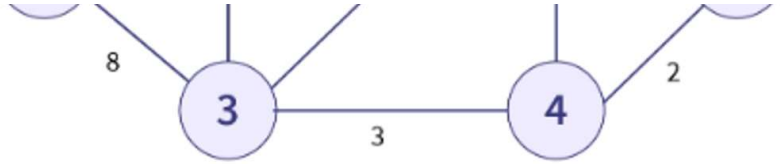


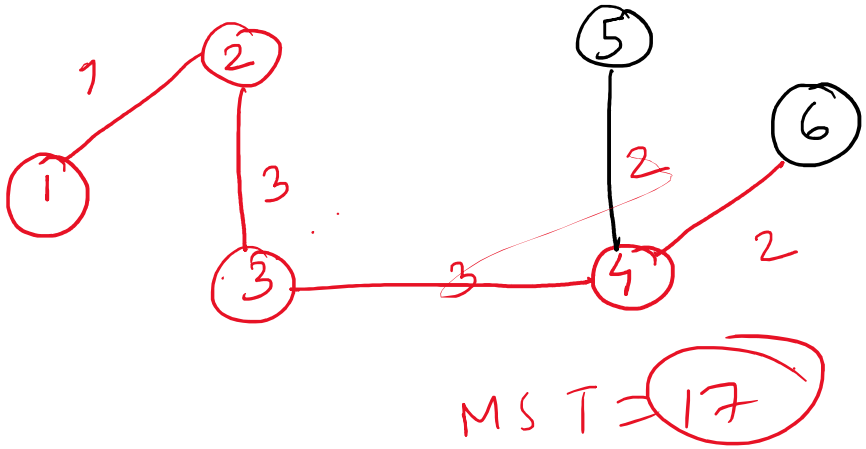

MST = 17

# PRIM'S TO FIND MST



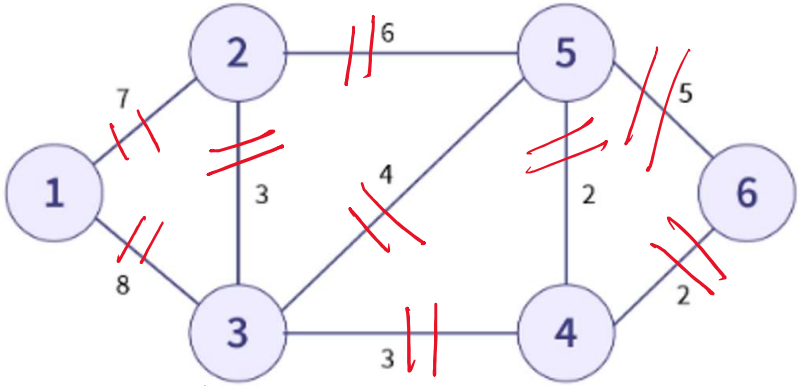

| Node A | Node B | Weight |
|---|---|---|
| 5 | 6 | 5 |
| 4 | 6 | 2 |
| 3 | 4 | 3 |
| 4 | 5 | 2 |

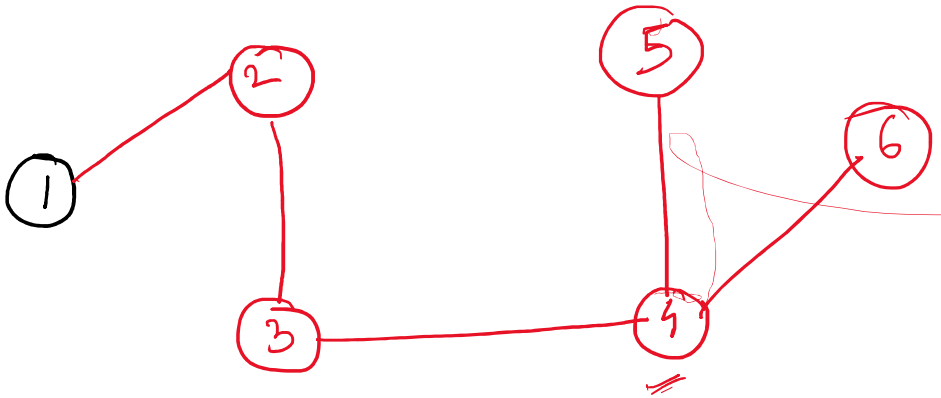



MST = 17

| | | |
|---|---|---|
| 4 | 5 | 2 |
| 2 | 5 | 6 |
| 3 | 5 | 4 |
| 2 | 3 | 3 |
| 1 | 3 | 8 |
| 1 | 2 | 7 |




| Node from | Node to | WT |
|---|---|---|
| 1 | 2 | 7 |
| 1 | 3 | 8 |
| 2 | 3 | 3 |
| 2 | 5 | 6 |
| 3 | 5 | 4 |
| 3 | 4 | 3 |
| 4 | 5 | 2 |
| 4 | 6 | 2 |
| 5 | 6 | 5 |