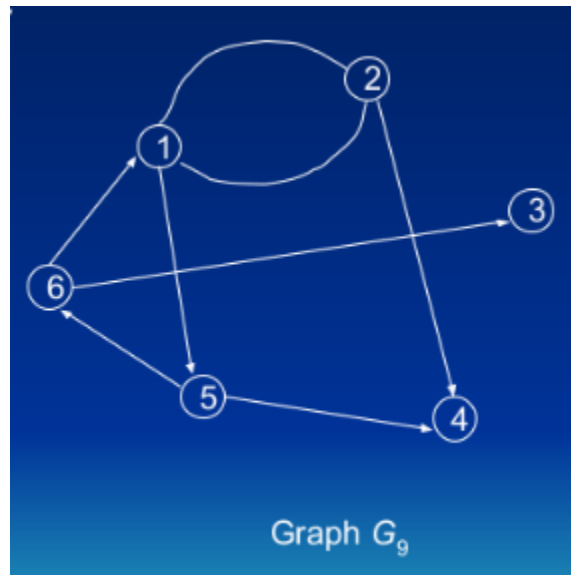


## GRAPHS



$$G_9 = (V_9, E_9)$$

$$V_9 = \{1, 2, 3, 4, 5, 6\}$$

$$E_9 = \{(1, 2), (1, 5), (2, 1), (2, 4), (5, 4), (5, 6), (6, 3)\}$$

Outdegree of 1 is 2

Outdegree of 2 is 2

Outdegree of 3 is 0

Outdegree of 4 is 0

Outdegree of 5 is 2

Outdegree of 6 is 2

Indegree of 1 is 2

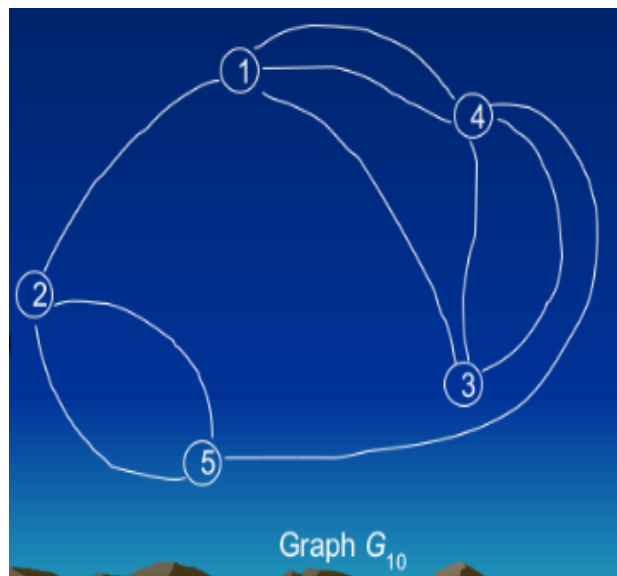
Indegree of 2 is 1

Indegree of 3 is 1

Indegree of 4 is 2

Indegree of 5 is 1

Indegree of 6 is 1



$$G_{10} = (V_{10}, E_{10})$$

$$V_{10} = \{1, 2, 3, 4, 5\}$$

$$E_9 = \{(1, 4), (2, 1), (2, 5), (3, 1), (3, 4), (4, 1), (4, 3), (4, 5), (5, 2)\}$$

Outdegree of 1 is 1

Outdegree of 2 is 2

Outdegree of 3 is 2

Outdegree of 4 is 3

Outdegree of 5 is 1

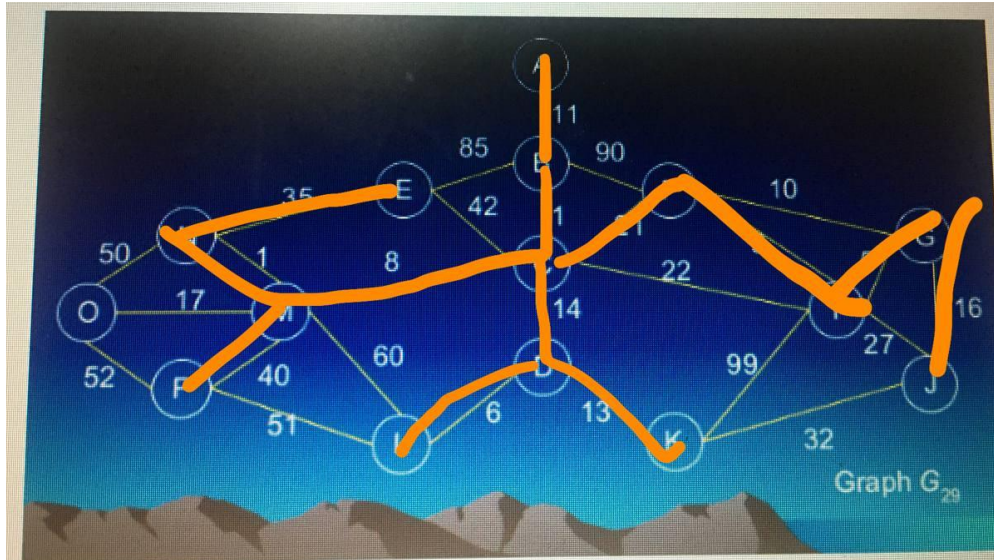
Indgree of 1 is 3

Indgree of 2 is 1

Indgree of 3 is 1

Indgree of 4 is 2

Indgree of 5 is 2



### Kruskal

Edge(b,c)  $w(b,c)=1$   
 Edge (m,n)  $w(m,n) = 1$   
 Edge (g,i)  $w(g,i) = 5$   
 Edge (d,l)  $w(d,l) = 6$   
 Edge c,m)  $w(c,m) = 8$   
 Edge (f,i)  $w(f,i) = 9$   
 Edge (f,g)  $w(f,g) = 10$   
 Edge (a,b)  $w(a,b) = 11$   
 Edge (d,k)  $w(d,k) = 13$

Edge (c,d)  $w(c,d) = 14$   
 Edge (g,j)  $w(g,j) = 16$   
 Edge (m,o)  $w(m,o) = 17$   
 Edge (c,f)  $w(c,f) = 21$   
 Edge (c,i)  $w(c,i) = 22$   
 Edge (i,j)  $w(i,j) = 27$   
 Edge (j,k)  $w(j,k) = 32$   
 Edge (e,n)  $w(e,n) = 35$   
 Edge (m,p)  $w(m,p) = 40$

Edge (c,e)  $w(c,e) = 42$   
 Edge (n,o)  $w(n,o) = 50$   
 Edge (l,p)  $w(l,p) = 51$   
 Edge (o,p)  $w(o,p) = 52$   
 Edge (l,m)  $w(l,m) = 60$   
 Edge (b,e)  $w(b,e) = 85$   
 Edge (b,f)  $w(b,f) = 90$   
 Edge (i,k)  $w(i,k) = 99$

**Total: 197**

### Prim's

Edge(b,c)  $w(b,c)=1$   
 Edge (m,n)  $w(m,n) = 1$   
 Edge (g,i)  $w(g,i) = 5$   
 Edge (d,l)  $w(d,l) = 6$   
 Edge (c,m)  $w(c,m) = 8$   
 Edge (f,i)  $w(f,i) = 9$   
 Edge (a,b)  $w(a,b) = 11$   
 Edge (d,k)  $w(d,k) = 13$   
 Edge (c,d)  $w(c,d) = 14$

Edge (g,j)  $w(g,j) = 16$   
 Edge (m,o)  $w(m,o) = 17$   
 Edge (c,f)  $w(c,f) = 21$   
 Edge (e,n)  $w(e,n) = 35$   
 Edge (m,p)  $w(m,p) = 40$

**Total: 197**