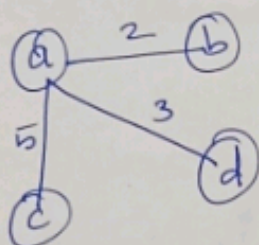# CSA 0669

Assignment

192311055

J. JACINTH
PRISCILLA

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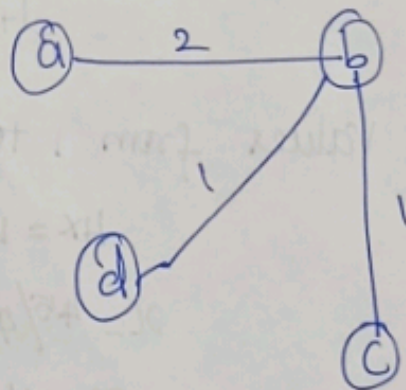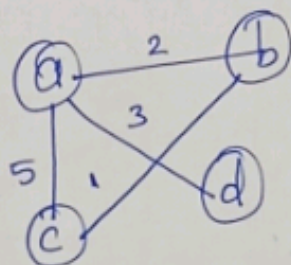# D Prim's algorithm
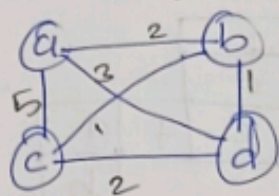
Node	Q	Key	Prev
a	-	∞	-
b	-	∞	-
c	-	∞	-
d	-	∞	-

Node	Q	Key	Prev
a	T	0	-
b	-	2	a
c	-	5	a
d	-	3	a

Shortest path

Node	Q	Key	Prev
a	T	0	-
b	T	2	a
c	T	1	b
d	T	1	b

Node	Q	Key	Prev
a	T	0	-
b	T	2	a
c	-	1	b
d	-	1	b.

Node	Q	Key	Prev
a	T	0	-
b	T	2	a
c	T	1	b
d	T	1	b
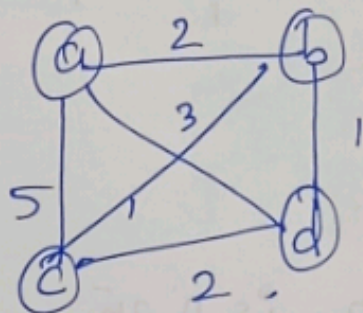
2) Compute the sum of subsets for the following Graph

$$S\{\} = (a,b,c,d,e,f,g,h,i)$$
$$V\{i\} = (1,2,3,4,5,6,7,8,9)$$

a	b	c	
		d	
	e	f	g
			h
			i
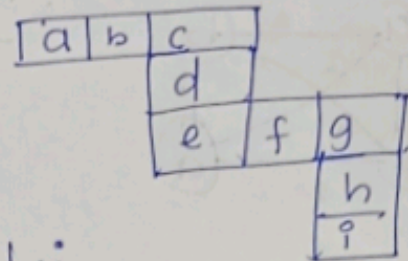
Constraints

$$a+b+c = c+d+e = e+f+g = g+h+i$$

Given 4 Constraints

$$a+b+c = x \longrightarrow ①$$
$$c+d+e = x \longrightarrow ②$$
$$e+f+g = x \longrightarrow ③$$
$$g+h+i = x \longrightarrow ④$$

① $\Rightarrow$ $a = 1, b = 2$ (assume)

$$c = x-3$$

② $\longrightarrow$ $c = x-3$ in ②

$$(x-3) + d + e = x$$
$$d+e = 3.$$

The values from 1 to 9 Sum of all possiable value is 45

$$4x = 45$$
$$x = 45/4$$
$$x = 11.25$$

The sum of all Subsets is 11.25

Let us assume $x = 15$

* $a+b+c = 15$
* $c+d+e = 15$
* $e+f+g = 15$
* $g+h+c = 15$

Choose $a=1$, $b=5$, $c=9$

$$1+5+9=15$$

$c=9$, then $d=3$ and $e=3$

$$d=4, e=2$$

$$9+4+2=15$$

$e=2$, choose $f=6$ and $g=7$.

$$2+6+7=15$$

$a=1$, $b=5$, $c=9$, $d=4$, $e=2$

$f=6$, $h=8$, $i=1$

3) Calculate the chromatic no for the following Graph Colouring