

1044+
1078

No:

Date:

187

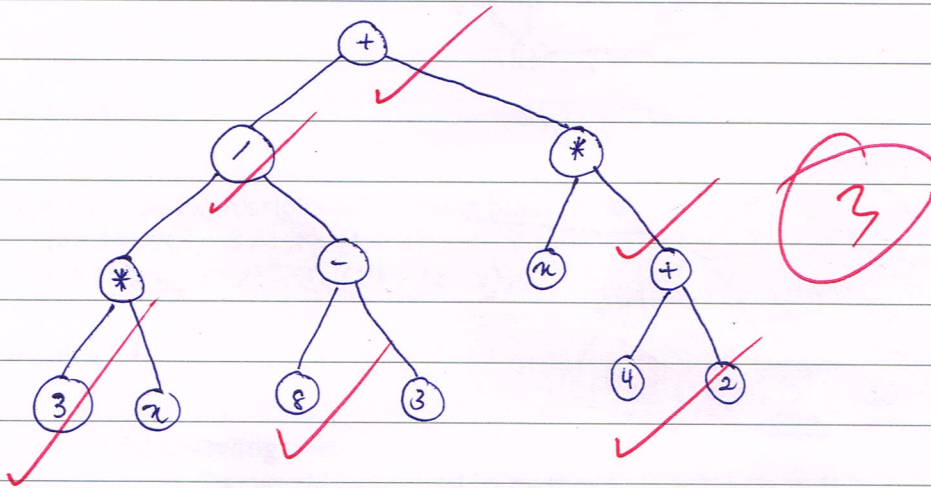
Question 1

Edge	JL	KL	hk	bf	gk	ac	fj	dh	il	cg	ad	ei	ab	be	gh	ij	cd	ef	de	hi
weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	2	1	1
Delete	Yes	Yes	Yes	Yes	NO	Yes	Yes	Yes	NO	Yes	Yes	NO	NO	NO	NO	NO	NO	NO	NO	NO

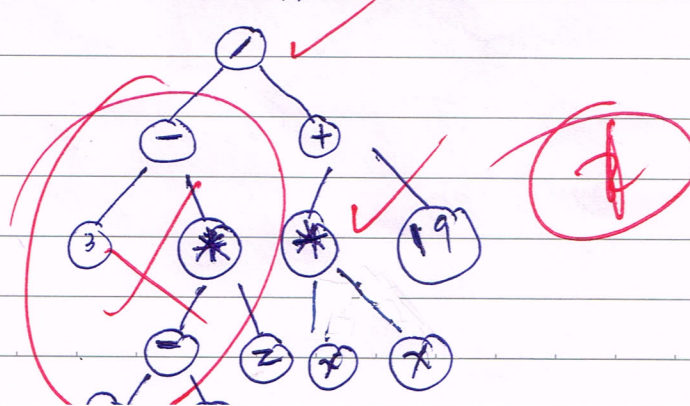
(b) Total weight = $6 + 5 + 4 + 3 + 3 + 3 + 3 + 2 + 2 + 1 + 1$
= 33

Question 2

(a) $3 * x / (8-3) + x * (4+2)$



(b) $((x-y) * z) - 3 / (19 + (x * x))$



Question 3

(a) In-order traversal

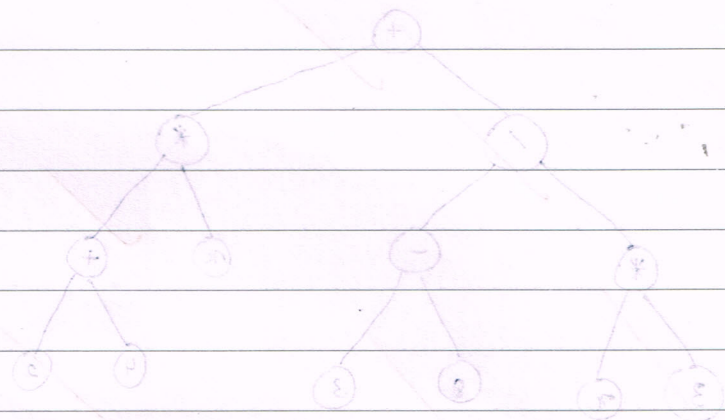
D, B, A, C, E, G, H, F, I

(b) Post-order traversal

D, B, G, E, A, I, F, C, A

3

K



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Scal Question 1

3

(a)	Edge	ij	ik	kh	kg	bf	hd	li	jf	ca	gc	da	ie	ab
	weight	9	8	7	6	6	5	5	5	5	4	4	4	3
	Delete	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes

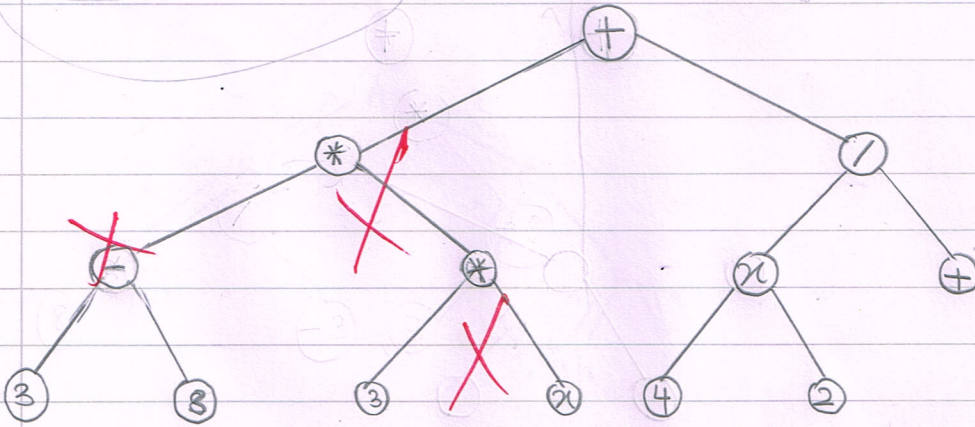
Edge	be	ij	gh	ef	cd	de	hi
weight	3	3	3	2	2	1	1
Delete	Yes	No	No	No	No	Yes	No

$$(12 - 1 = 11)$$

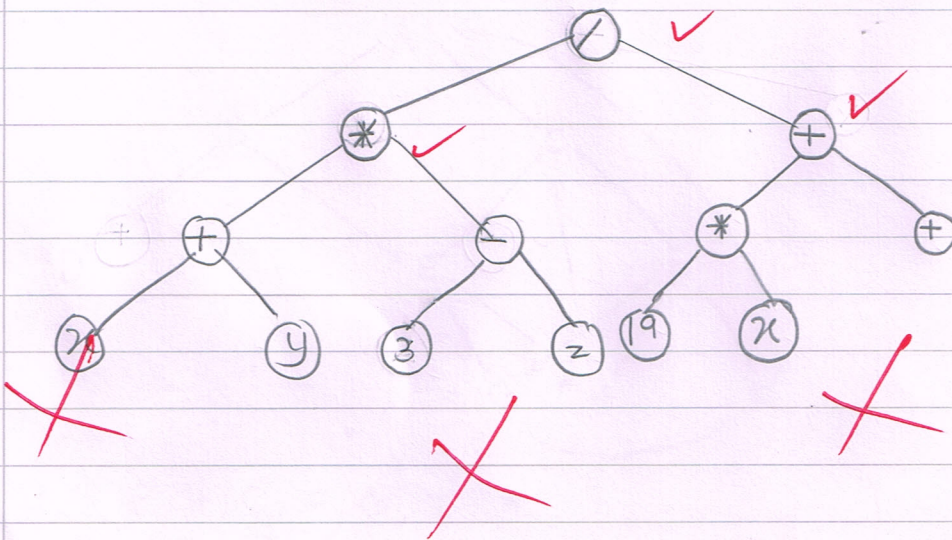
(b) Thus the minimal spanning tree of the graph which is obtained contains the edge kh, gc, da, ie, ij, gh, ef, cd and hi. The spanning tree has weight

Question 2

(a) $3 * x / (8 + 3) + x * (4 + 2)$



(b) $((x - y) * z - 3) / (19 + (x * x))$



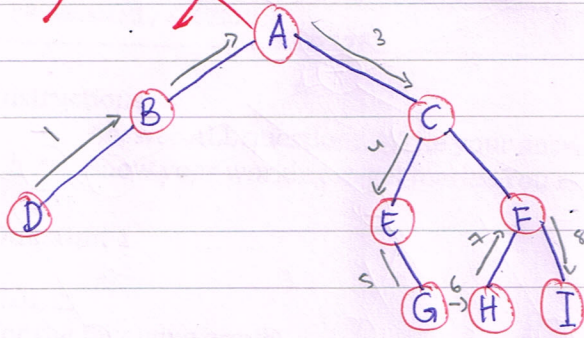
(am- y) ber
laman y) keel

+ - ÷ *

Question 3

(a) In-order traversal

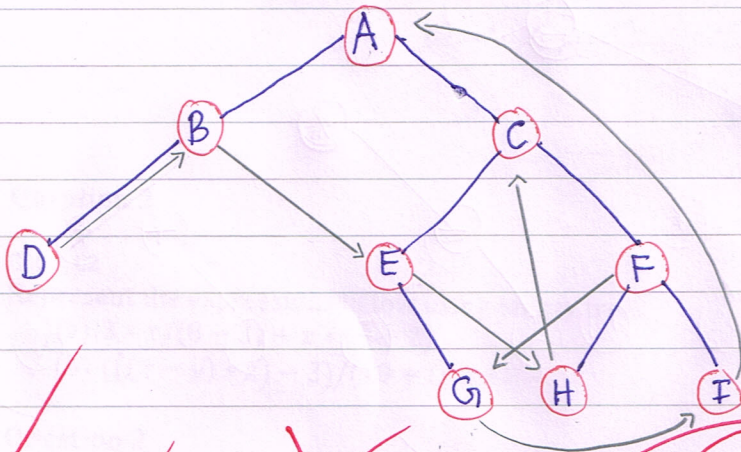
~~D, B, A, C, E, G, H, F, I~~



2

(b) Post-order traversal

first, consider left family



~~D, B, E, H, C, F, G, I, A~~

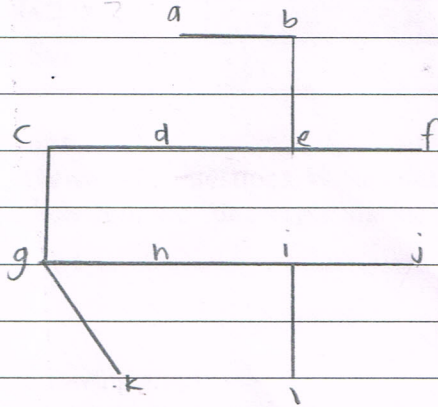
1/2

Question 1

1032 ✓
1035 ✓

12

a)	Edge	ij	ik	hk	bf	gk	fj	il	dh	ca	cg	ad	ei	gh	ab	ij	be	cd	ef	hi	de
	Weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	2	1	1
	Delete	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	No	No	No	No	No	No



6

b)	33
----	----

Question 2.

a)

```
graph TD; A["+"] --- B["3"]; A --- C["3"]; B --- D["3"]; B --- E["x"]; C --- F["3"]; C --- G["x"]; D --- H["3"]; D --- I["x"]; E --- J["4"]; E --- K["2"]; F --- L["4"]; F --- M["2"]; G --- N["4"]; G --- O["2"]; I --- P["4"]; I --- Q["2"]; J --- R["4"]; J --- S["2"]; K --- T["4"]; K --- U["2"]; M --- V["4"]; M --- W["2"]; N --- X["4"]; N --- Y["2"]; O --- Z["4"]; O --- AA["2"]; P --- AB["4"]; P --- AC["2"]; Q --- AD["4"]; Q --- AE["2"]; R --- AF["4"]; R --- AG["2"]; S --- AH["4"]; S --- AI["2"]; T --- AJ["4"]; T --- AK["2"]; U --- AL["4"]; U --- AM["2"]; V --- AN["4"]; V --- AO["2"]; W --- AP["4"]; W --- AQ["2"]; X --- AR["4"]; X --- AS["2"]; Y --- AT["4"]; Y --- AU["2"]; Z --- AV["4"]; Z --- AW["2"]; AA --- AX["4"]; AA --- AY["2"]; AB --- AZ["4"]; AB --- BA["2"]; AC --- BB["4"]; AC --- BC["2"]; AD --- BD["4"]; AD --- BE["2"]; AE --- BF["4"]; AE --- BG["2"]; AF --- BH["4"]; AF --- BI["2"]; AG --- BJ["4"]; AG --- BK["2"]; AH --- BL["4"]; AH --- BM["2"]; AI --- BN["4"]; AI --- BO["2"]; AJ --- BP["4"]; AJ --- BQ["2"]; AK --- BR["4"]; AK --- BS["2"]; AL --- BT["4"]; AL --- BU["2"]; AM --- BV["4"]; AM --- BW["2"]; AN --- BX["4"]; AN --- BY["2"]; AO --- BZ["4"]; AO --- BA1["2"]; AP --- BB1["4"]; AP --- BC1["2"]; AQ --- BD1["4"]; AQ --- BE1["2"]; AR --- BF1["4"]; AR --- BG1["2"]; AS --- BH1["4"]; AS --- BI1["2"]; AT --- BJ1["4"]; AT --- BK1["2"]; AU --- BL1["4"]; AU --- BM1["2"]; AV --- BN1["4"]; AV --- BO1["2"]; AW --- BP1["4"]; AW --- BQ1["2"]; AX --- BR1["4"]; AX --- BS1["2"]; AY --- BT1["4"]; AY --- BU1["2"]; AZ --- BV1["4"]; AZ --- BW1["2"]; BA --- BX1["4"]; BA --- BY1["2"]; BB --- BZ1["4"]; BB --- BA2["2"]; BC --- BB2["4"]; BC --- BC2["2"]; BD --- BB3["4"]; BD --- BC3["2"]; BE --- BB4["4"]; BE --- BC4["2"]; BF --- BB5["4"]; BF --- BC5["2"]; BG --- BB6["4"]; BG --- BC6["2"]; BH --- BB7["4"]; BH --- BC7["2"]; BI --- BB8["4"]; BI --- BC8["2"]; BJ --- BB9["4"]; BJ --- BC9["2"]; BK --- BB10["4"]; BK --- BC10["2"]; BL --- BB11["4"]; BL --- BC11["2"]; BM --- BB12["4"]; BM --- BC12["2"]; BN --- BB13["4"]; BN --- BC13["2"]; BO --- BB14["4"]; BO --- BC14["2"]; BP --- BB15["4"]; BP --- BC15["2"]; BQ --- BB16["4"]; BQ --- BC16["2"]; BR --- BB17["4"]; BR --- BC17["2"]; BS --- BB18["4"]; BS --- BC18["2"]; BT --- BB19["4"]; BT --- BC19["2"]; BU --- BB20["4"]; BU --- BC20["2"]; BV --- BB21["4"]; BV --- BC21["2"]; BW --- BB22["4"]; BW --- BC22["2"]; BX --- BB23["4"]; BX --- BC23["2"]; BY --- BB24["4"]; BY --- BC24["2"]; BZ --- BB25["4"]; BZ --- BC25["2"]; BA2 --- BB26["4"]; BA2 --- BC26["2"]; BA3 --- BB27["4"]; BA3 --- BC27["2"]; BA4 --- BB28["4"]; BA4 --- BC28["2"]; BA5 --- BB29["4"]; BA5 --- BC29["2"]; BA6 --- BB30["4"]; BA6 --- BC30["2"]; BA7 --- BB31["4"]; BA7 --- BC31["2"]; BA8 --- BB32["4"]; BA8 --- BC32["2"]; BA9 --- BB33["4"]; BA9 --- BC33["2"]; BA10 --- BB34["4"]; BA10 --- BC34["2"]; BA11 --- BB35["4"]; BA11 --- BC35["2"]; BA12 --- BB36["4"]; BA12 --- BC36["2"]; BA13 --- BB37["4"]; BA13 --- BC37["2"]; BA14 --- BB38["4"]; BA14 --- BC38["2"]; BA15 --- BB39["4"]; BA15 --- BC39["2"]; BA16 --- BB40["4"]; 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BA114 --- BC138["2"]; BA115 --- BB139["4"]; BA115 --- BC139["2"]; BA116 --- BB140["4"]; BA116 --- BC140["2"]; BA117 --- BB141["4"]; BA117 --- BC141["2"]; BA118 --- BB142["4"]; BA118 --- BC142["2"]; BA119 --- BB143["4"]; BA119 --- BC143["2"]; BA120 --- BB144["4"]; BA120 --- BC144["2"]; BA121 --- BB145["4"]; BA121 --- BC145["2"]; BA122 --- BB146["4"]; BA122 --- BC146["2"]; BA123 --- BB147["4"]; BA123 --- BC147["2"]; BA124 --- BB148["4"]; BA124 --- BC148["2"]; BA125 --- BB149["4"]; BA125 --- BC149["2"]; BA126 --- BB150["4"]; BA126 --- BC150["2
```

b)

```
graph TD; Root[" "] --- Minus["-"]; Root --- Star["*"]; Minus --- x["x"]; Minus --- y["y"]; Star --- z["z"]; Star --- Plus["+"]; z --- 3["3"]; Plus --- 19["19"];
```


Question 3

a) DBAGEHFIC

b) DBG E H I F C A

1038 + 2011

No:
Date:

Question 1

j1	k1	h1	g1	f1	e1	d1	c1	b1	a1	q1	p1	o1	n1	m1	l1	k1	j1	i1	h1
9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	2	1	1
Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	No	No	No	No	No	No	No

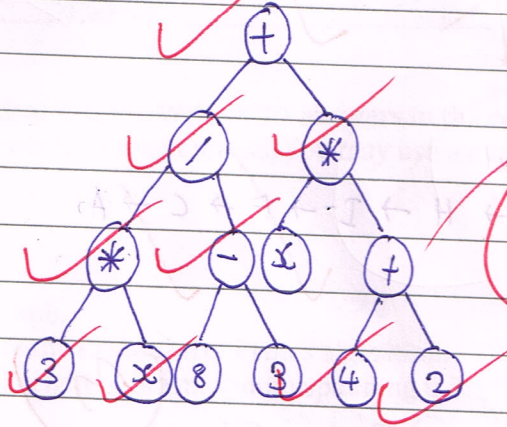
Minimum = 34

1/2

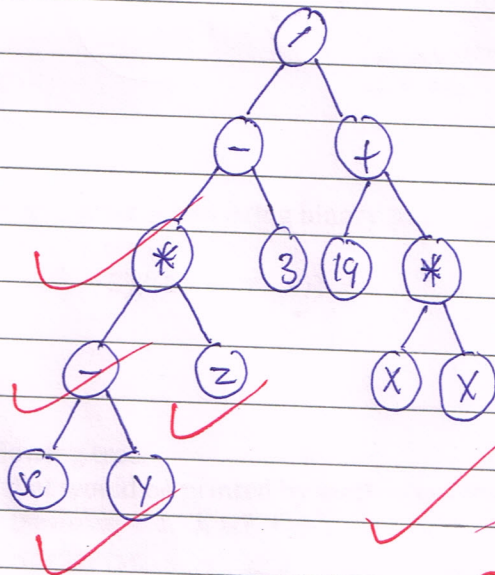
1/2

Question 2

a) $3 * x / (8 - 3) + x * (4 + 2)$

Pre-order notation = $+ / * 3 x (- 8 3) * x (+ 4 2)$ 

b) $((x - y) * z) - 3 / (19 + (x * x))$

Pre-order notation = $- (* (- x y) z) 3 (+ 19 (* x x))$ 

Question 3

a) In-order traversal

~~D, B, A~~

= D → B → A → E → C → G → H → F → I

b) Post-order traversal

= D → B → E → G → H → I → F → C → A

Flarelynn Kalong (05061811067)

11

Question 1

3

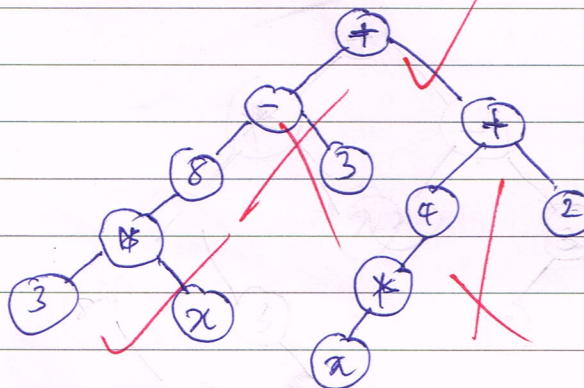
(a) edges	jl	kl	hk	gk	bf	fj	il	dh	ac	cg	ad	ei	ab	be	gh
weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3
Delete	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No

ij	cd	ef	de	hi
3	2	2	1	1
Yes	Yes	No	Yes	No

(b) Total weight = 33

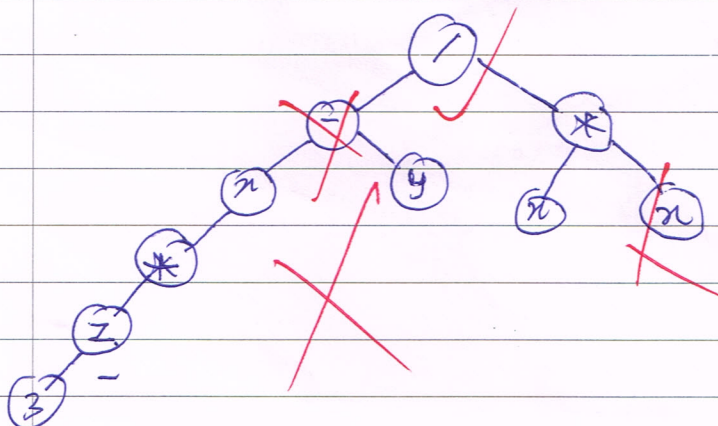
Question 2

(a) $3 * x / (8 - 3) + x * (4 + 2)$



1

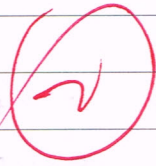
(b) $((x - y) * z) - 3 / (19 + (x * x))$



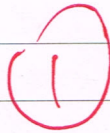
1

Question 3

(a) In-order traversal

~~= DBACEHFIG~~

(b) Post-order traversal

~~= DGECHIFBA~~

1136+
10146

No. :

Date :

Question 1.

a) Prim's algorithm.

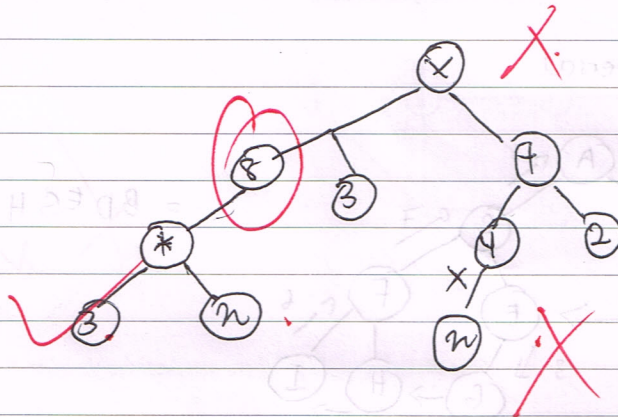
edges	LS	KL	KH	gt	bf	of	LI	hd	ac	ie	gc	ad	IJ	gh	ab	be	fe	dc	ed	hi
weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	2	1	1
delete	Yes	NO	Yes	NO	Yes	NO	Yes	Yes	NO	Yes	Yes	Yes	NO	NO	NO	Yes	NO	NO	NO	NO

b)

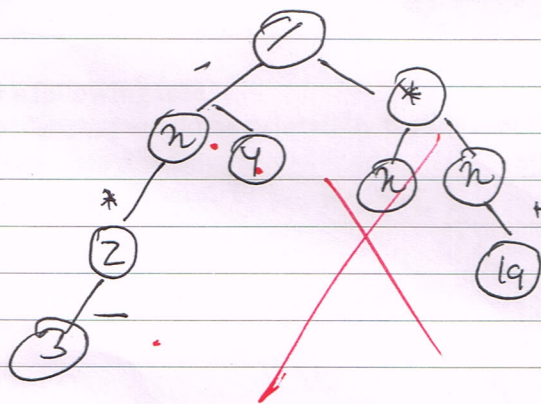
Total weight = 39

Question 2.

a) $3 \times n / (8-3) + n \times (4+2)$

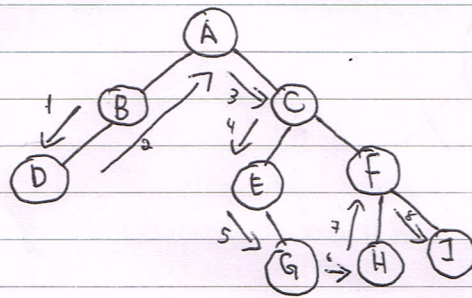


b)



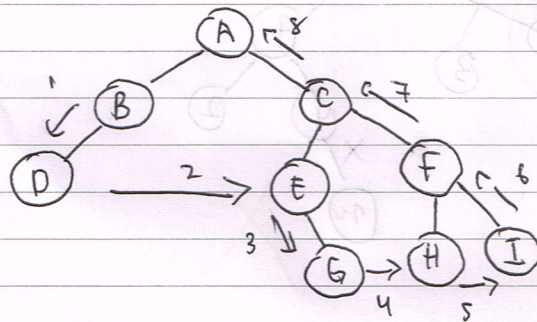
Question 3-a) ~~B, D, A, C, E, G, H, F, I~~b) ~~Post-order traversal.~~

a) In-order traversal

= ~~B, D, A, C, E, G, H, F, I~~

(1)

b) Post-order traversal

= ~~B, D, E, G, H, I, F, C, A~~

(2)

Subject:

Question 1

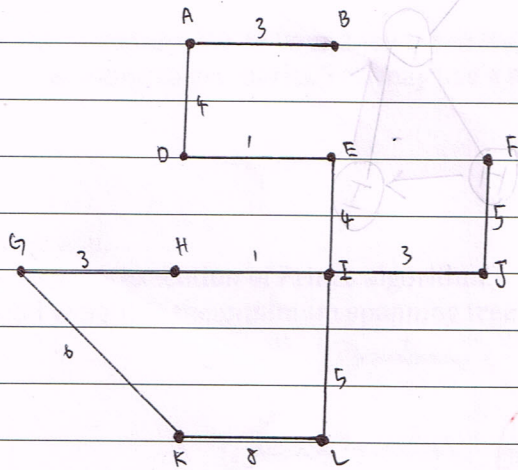
1076 + 1009

8

Edges	IL	KL	HK	GK	BF	AC	DH	IL	FJ	CG	AD	EI	AB	GH	BE	IJ	CD	EF	DE
Weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	2	1
Delete	YES	NO	YES	NO	YES	YES	YES	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES	YES	NO

7

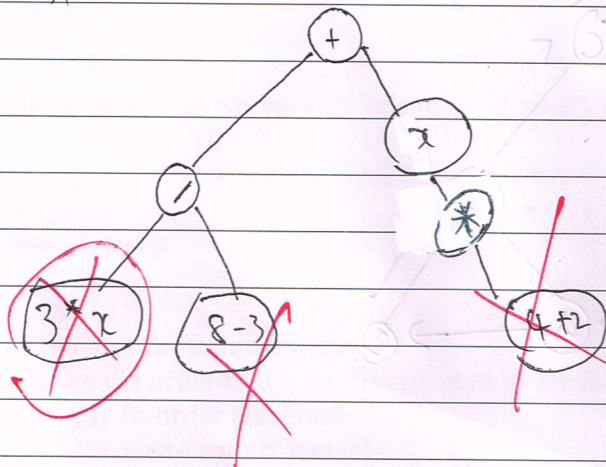
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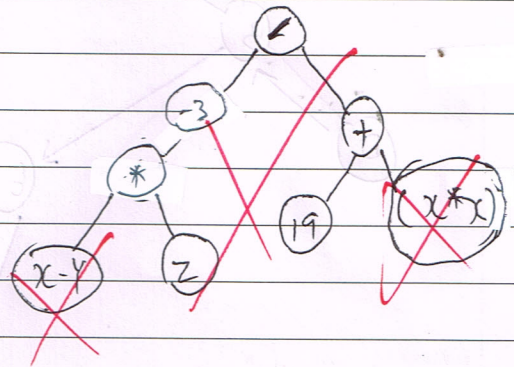
Total weight of the minimum spanning tree produced is 43.

Question 2

(a)

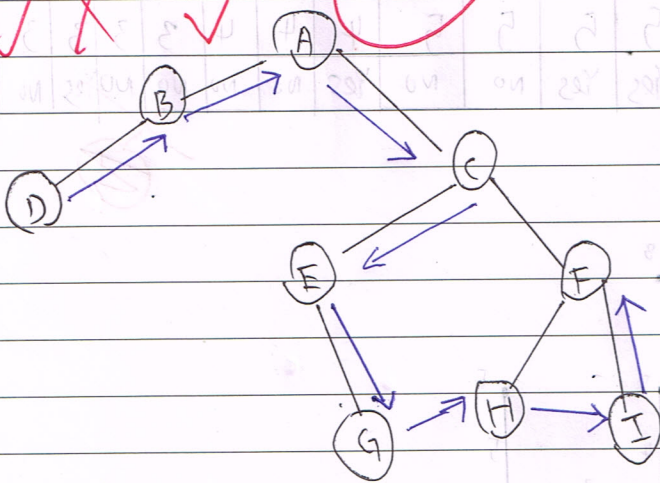


b.)

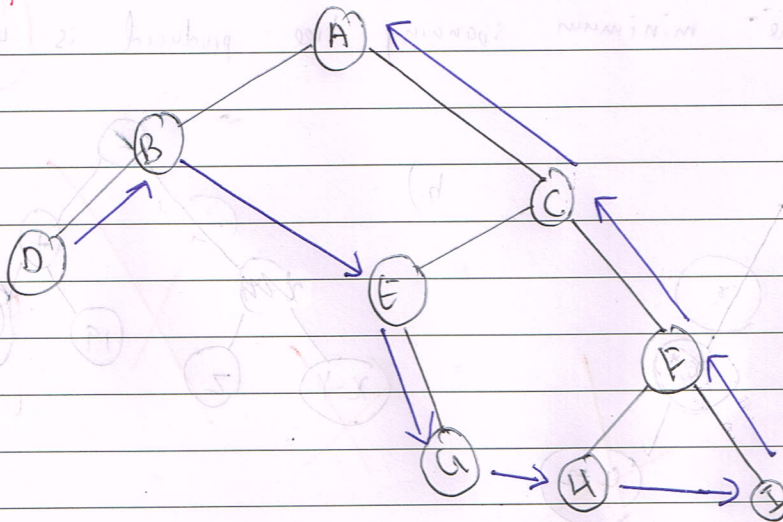


Question 3

a.) In-order traversal

~~DBACEGHFI~~

b) post-order traversal.

~~DBEGHIFCA~~

Tutorial 4
Question 1

(16)

(a)

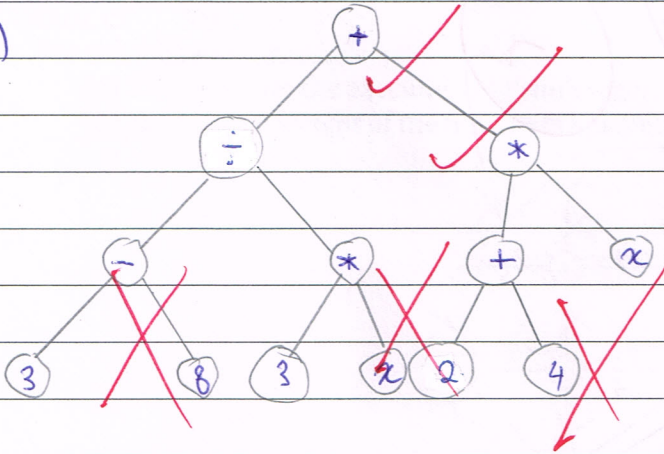
Edges	jl	kl	hk	gk	bf	dh	il	fj	ca	ad	eg	ei	gh	ij	ab	bc	cd	ef	de	hi
Weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	2	1	1
Delete	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No

3

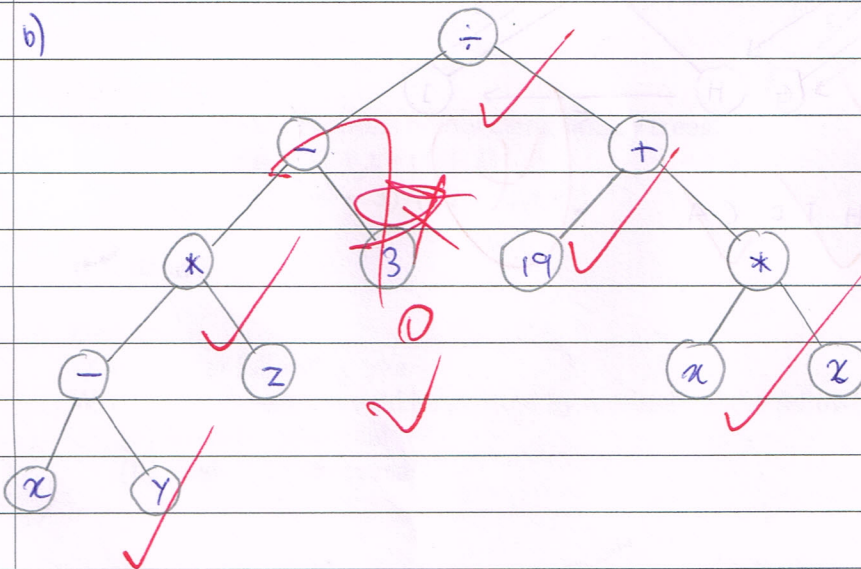
(b) Total weight = ~~38~~ 33

Question 2

(a)

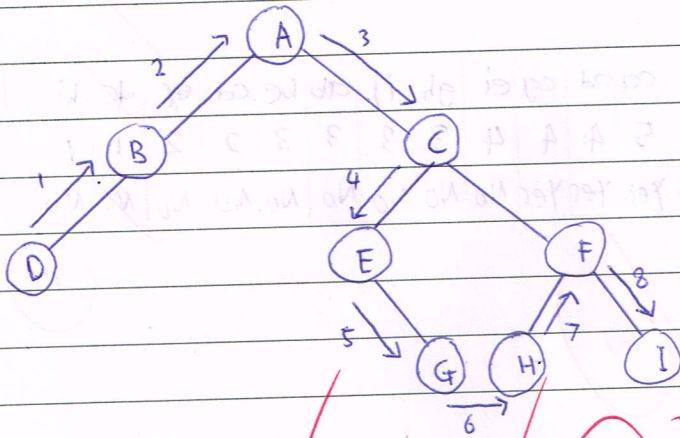


b)

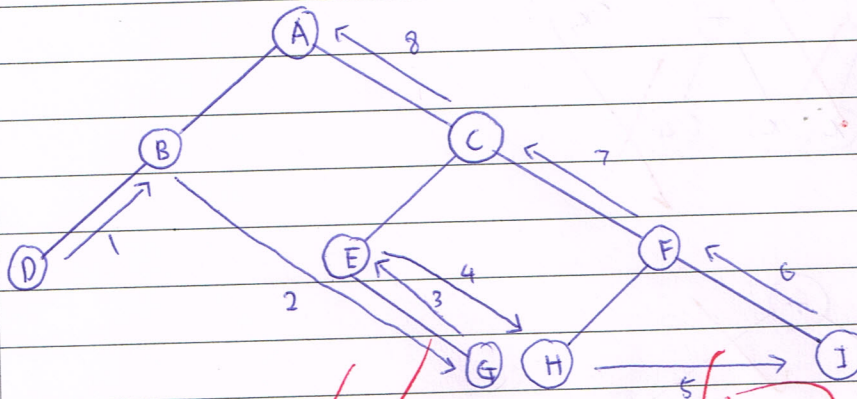


Question 3

a) In-order traversal

In-order is ~~DBACEGHFI~~

b) Post-order traversal

Post-order is ~~DBG E H I F CA~~

Olivia + Jonathan

No: _____
Date: _____

16

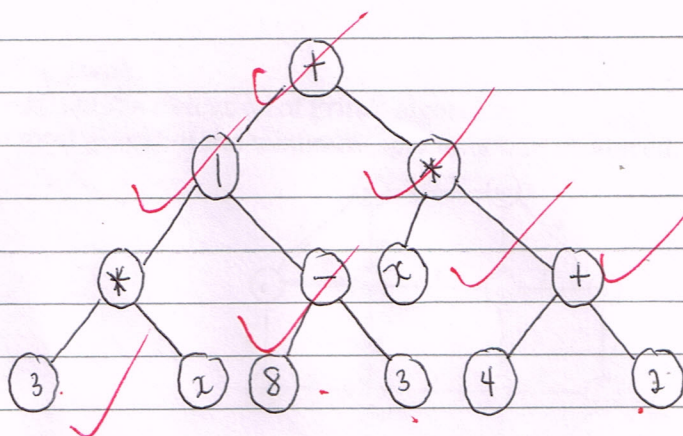
Question 1

a)	edges	li	kl	hk	gk	bf	fj	dh	il	ac	cg	ad	ei	gh	ab	be	ij	cd	ef
	weight	9	8	7	6	6	5	5	5	5	4	4	4	3	3	3	3	2	1
	delete	yes	no	yes	no	yes	yes	yes	no	yes	yes	no	no	no	no	no	no	no	yes
	de	hi																	
	i	i																	
	yes	no																	

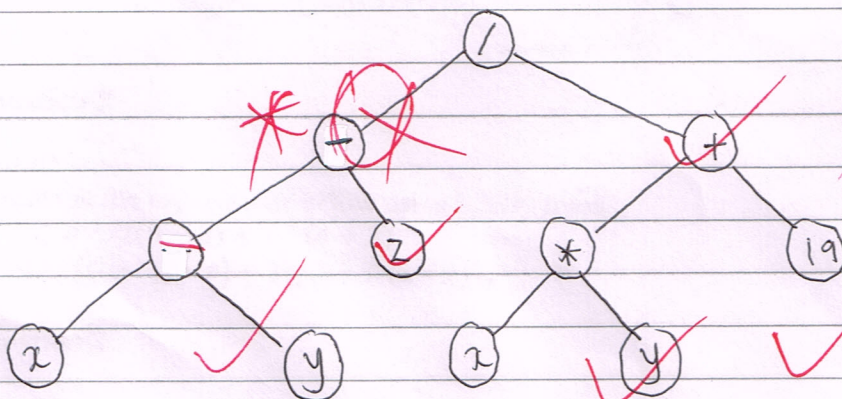
b) ~~total weight~~ = 42 X

Question 2

a)



b)



Question 3

a) In-order traversal

= D, B, A, E, G, C, H, F, I

b) Post-order traversal

= D, B, G, E, H, I, F, C, A