

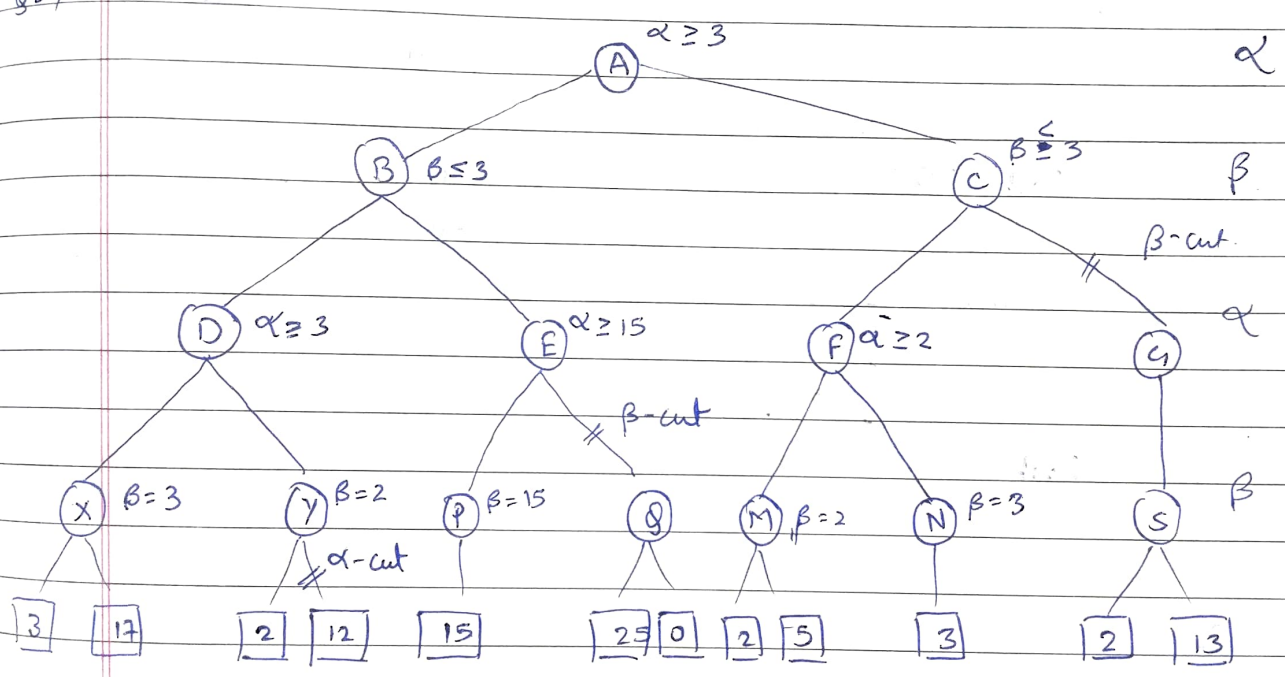
Q1.7

L O G I C  
L O G I C  
P R O L O G

ISA SUNASRA  
INFT - B  
2010130040

9 0 4 5 2  
9 0 4 5 2  
1 8 0 9 0 4

Q2.7



Q3.7

	P	Q	R	S	T	U	V	W
visited	1	1	1	1	1	1	1	1

1. Stack: 

P
---

  
Path: P

5. Stack: 

W
T
R

Path: PQSUW

2. Stack: 

Q
R

6. Stack: 

T
R

Path: PQ

Path: PQSUWT

3. Stack: 

S
T
R

7. Stack: 

R
---

Path: PQSUWTR

Path: PQS

8. Stack: 

V
---

Path: PQSUWTRV

4. Stack: 

U
T
R

Path: PQSU

Q4.)

1.  $\text{eatapple}(x) = x$  is eating an apple  
 $\text{visitdoctor}(y) = y$  is visiting to a doctor.

$\forall x: \text{eatapple}(x) \rightarrow \sim \text{visitdoctor}(y)$

2.  $\text{hasSpouse}(x, 2) \rightarrow x$  has 2 spouse  
 $\text{hasSpouse}(x, 1) \rightarrow x$  has 1 spouse.  
 $\text{biggamist}(x) \rightarrow x$  is a biggamist.

$\forall x: \text{haspouse}(x, 1) \rightarrow \sim \text{biggarnist}.$

3>  $\text{chicken}(x) : x \text{ is chicken.}$

$\text{egg}(y) : y \text{ is an egg}$

$\text{hatched}(y, x) : y \text{ hatched } x$

$\forall x: \text{chicken}(x) \rightarrow \exists y: \text{egg}(y) \wedge \text{hatched}(y, x)$

4>

5>  $\text{indian}(x) : x \text{ is an Indian}$

$\text{like temple}(y) : y \text{ likes temple}$

$\forall x: \text{indian}(x) \rightarrow \text{like temple}(x)$

Q5> Step 1: Predicate.

1>  $\text{VIT}(x)$

2>  $\text{knows}(x, y)$

3>  $\text{bunkclass}(x)$

4>  $\text{done wrong}(x)$

5>  $\text{perfect}(x)$

6>  $\text{human}(x)$

Step 2: FOL

$$1. \forall x: VIT(x) \rightarrow [\exists y: knows(y, x) \wedge bunkclass(y)]$$

$$2. \forall x: bunkclass(x) \rightarrow donewrong(x)$$

$$3. \forall x: donewrong(x) \rightarrow \sim perfect(x)$$

$$4. VIT(Marish)$$

$$5. \forall x: human(x) \leftrightarrow \sim perfect(x)$$

$$6. \forall x: knows(Marish, x) \rightarrow \sim human(x)$$

Step 3: CNF

$$1. \sim VIT(x) \vee [knows(x, saurabh) \wedge bunkclass(saurabh)]$$

$$\sim VIT(x) \vee knows(x, saurabh)$$

$$\sim VIT(x) \vee bunkclass(saurabh)$$

$$VIT(saurabh)$$

$$2. VIT(saurabh)$$

$$3. \sim bunkclass(x) \vee donewrong(x)$$

$$4. \sim donewrong(x) \vee \sim perfect(x)$$

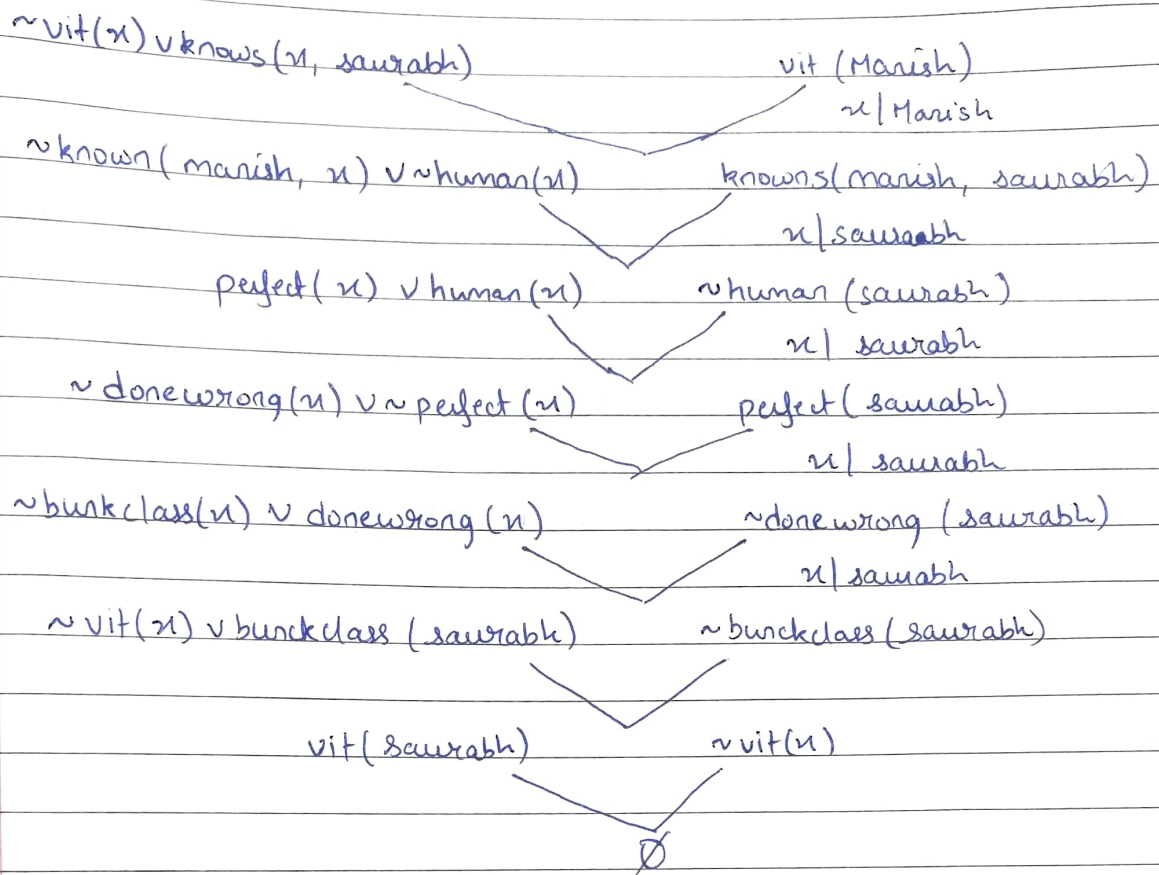
$$5. Marish(x)$$

$$6. \sim human(x) \vee \sim perfect(x)$$

$$7. perfect(x) \vee human(x)$$

$$8. \sim knows(Marish, x) \vee \sim human(x)$$

$$TPT \rightarrow \sim VIT(Marish)$$



Null clause means an assumption is wrong

$\therefore$  Marish is not in VIT is True

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Step 1:

Action (Study (topic))

precondition (Not-knowledgeable (topic))

Effect (knowledgeable - about (topic))

Step 2:

Action (practice (topic))

precondition (knowledgeable - about (topic))

effect (mastered (topic))



Step 3:

Action (take - mock - test (topic))

precondition (mastered (topic))

effect (comfortable - with (topic)  $\wedge$  comfortable - with (exam format))

Step 4:

Action: Review (mistakes)

precondition: take - mock - test (topic)

effect: improved - understanding (topic)