TE IN THE WAR TO BE

Question # 01 (A):

1): There are exactly four red books.

 $\exists a \exists b \exists c \exists d \ book(a) \land \text{xed}(a) \land \text{book}(b) \land \text{xed}(b)$ $\land \text{book}(c) \land \text{xed}(c) \land \text{book}(d) \land \text{xed}(d) \land \neg (a=b)$ $\land \neg (a=c) \land \neg (a=d) \land (b=c) \land \neg (b=d) \land \neg$ $(c=d) \land \forall x (\text{book}(x) \land \text{xed}(x)) \rightarrow ((a=x) \lor (b=x)) \lor$ $(c=x) \lor (d=x)$

2) There are atleast four red books

Ja Jb Je Jd book(a) A red(a) A book(b) Ared(b)

A book(c) A red (c) A book(d) A red(d) A - (a=b)

A - (a=c) A - (a=d) A (b=c) A - (b=d) A (C=d)

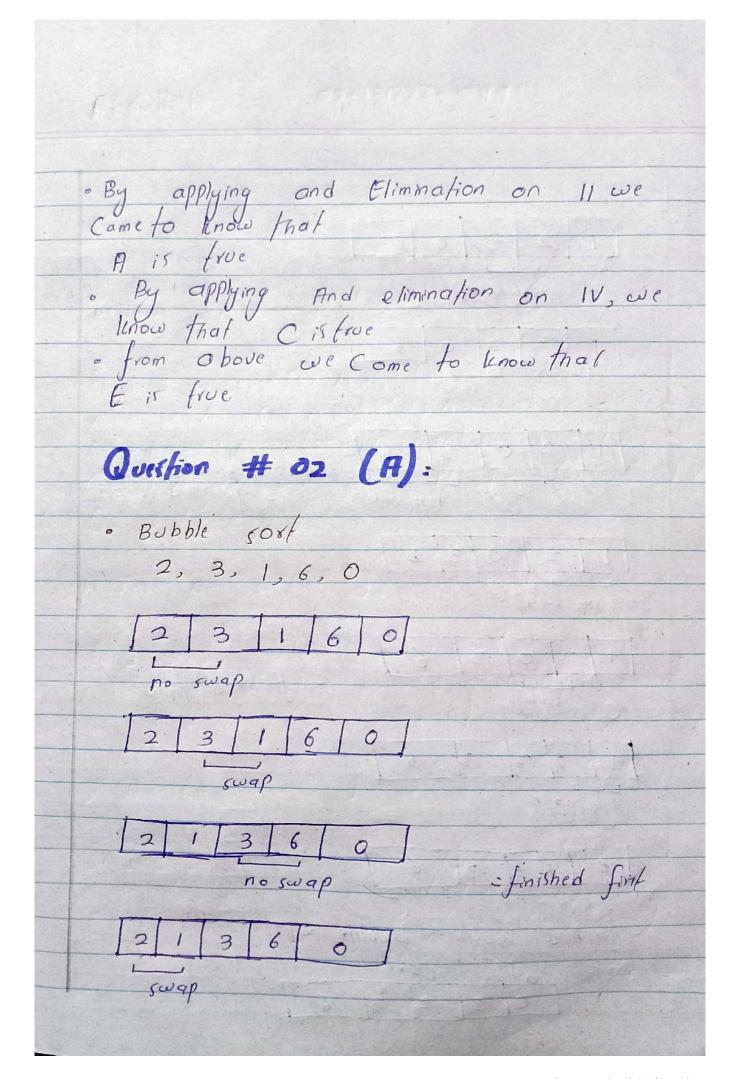
3). There are almost four red books.

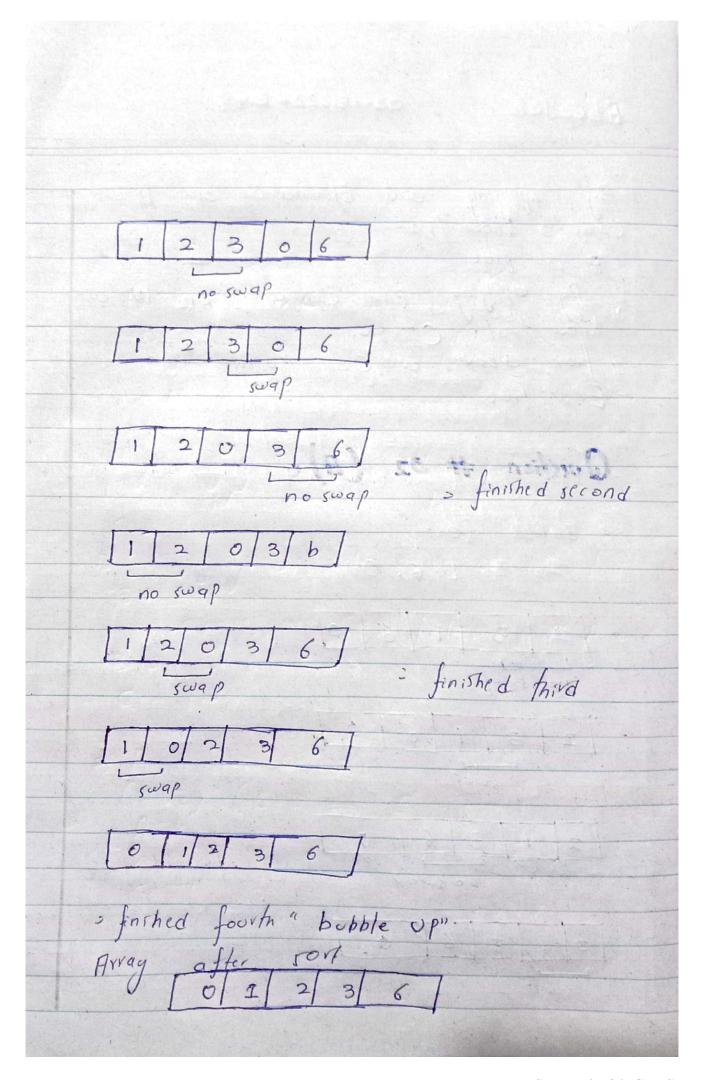
Ja Jb Jc Jd book(a) Ared (a) A book(b) Ared(b)

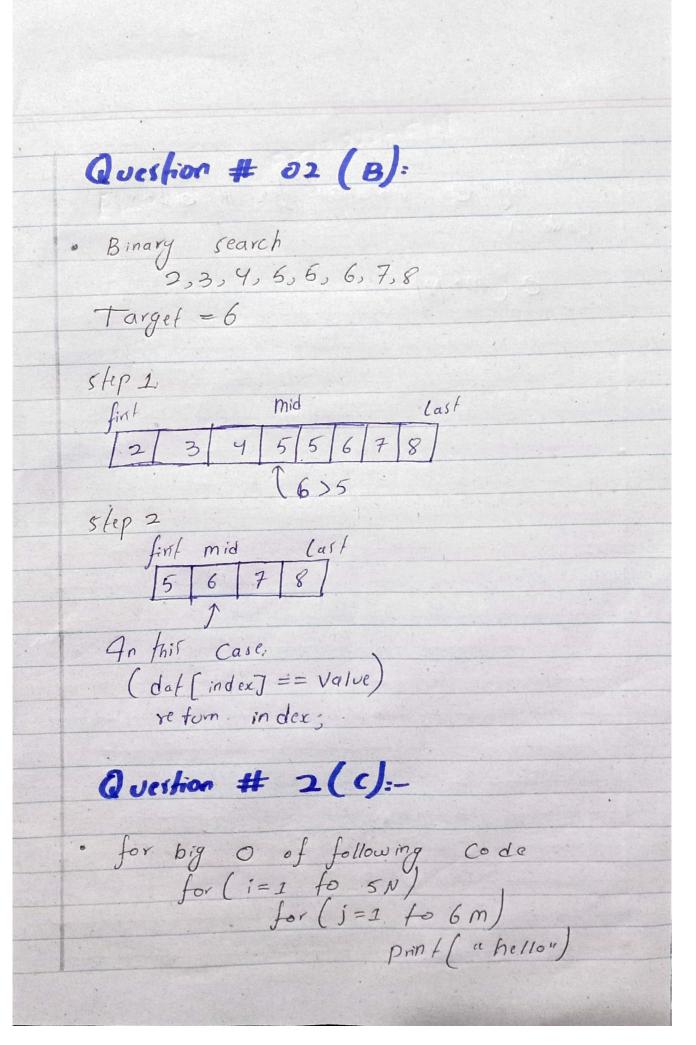
A book (c) Ared (c) A book(d) Ared(d) A You

(book(x) Ared(x)) -> (ax)(b=x)(c=x)(d=x).

(iii) and (iv), we know that A is frue - By Applying and elimination we know that B is frue		101-12 ALMALIA
(A^B) VD => C	Quation # 01 (B):
(A^B) VD => C		Part in the contract of
B^k A VK — (iii) N — (iv) By applying unil resolution rule onstalement (iii) and (iv), we know that A is frue By Applying and elimination we know that B is frue from above, we came to know that A and B are frue — C is frue. 2): E is frue or not (AVB)^(CVD) => E -> 1. A^k NK —> 11. NK —> 11.	1) Cistave or not	
A VK (iv) By applying unit resolution rule onstatement (ii) and (iv), we know that A is frue By Applying and elimination we know that B is frue from above, we came to know that A and B are frue C is frue. 2): E is frue or not (AVB)^(CVD) => E -> 1. A^K -> 11. NK CTT		ACCESSORY MEDICAL PROPERTY OF THE PROPERTY OF
«N — (iv) By applying unil resolution rule onstalement (iii) and (iv), we know that A is frue By Applying and elimination we know that B is frue from above, we came to know that A and B are frue C is frue. 2): E is frue or not (AVB)^(CVD) ⇒ E → 1. A^k → 11. ~ k ~ 11.		7
By applying unil resolution rule onstalement (iii) and (iv), we know that A is frue By Applying and elimination we know that B is frue from above, we came to know that A and B are frue C is frue. 2): E is frue or not (AVB)^(CVD) => E -> 1. A^k -> 11. NK CT		
By Applying and elimination we know that B is frue of from above, we come to know that A and B are frue c is frue or not (AVB)^(CVD) => E -> 1. A^K -> 11. NK -> 11.	/.V	(iv)
o from above, we come to lenow that H one B are frue ∴ C is frue. 2): E is frue or not (AVB)^(CVD) => E → 1. A^K → 11 ~ K —> 111	17 13 6106	
2): E is frue or not $(AVB)^{\wedge}(CVD) = E \longrightarrow I$ $A^{\wedge}K \longrightarrow III$ $C^{\wedge}T \longrightarrow III$	Bis frue	elimination we know that
2): E is frue or not $(AVB)^{\wedge}(CVD) = E \longrightarrow I$ $A^{\wedge}k \longrightarrow II$ $C^{\wedge}T \longrightarrow III$	B are frue	Come to know that A and
$(AVB)^{\wedge}(CVD) =) E \rightarrow I$ $A^{\wedge}k \qquad \rightarrow II$ $C^{\wedge}T \qquad \rightarrow III$		
$(AVB)^{\wedge}(CVD) =) E \rightarrow I$ $A^{\wedge}k \qquad \rightarrow II$ $C^{\wedge}T \qquad \rightarrow III$	2): E is frue or n	of.
$\begin{array}{ccc} H^{\wedge}k & \longrightarrow II \\ \sim k & \longrightarrow III \end{array}$		
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solution,
Big O notation for the above
Code is
Code 11
O (m* N).
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