

SECTION C

QUESTION 1

a) - The size and type of variable values are specified.
- used to store a group of values.

b) i) simple linked list

ii) Add (3, C, L)

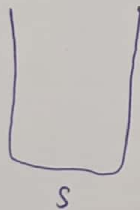
add the value C to list L at position 0

c) i) An error condition that occurs when an item is called for from the stack, but the stack is empty.

ii) - method processing data like last in first out

- the last one pushed in is the first one popped out
- last item entered are the first to be removed.

iii) i) create Stack (s);



ii) Push ('Ali', s);



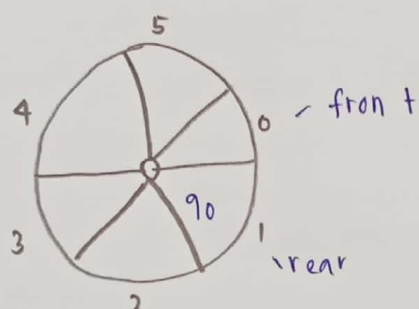
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m/s 1

d) i) - print lines of a document
 - printer sharing between computer

ii) label A → Remove
 item B → front

iii)



$$\text{count} = \text{count} + 1$$

$$= 0 + 1$$

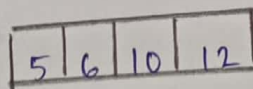
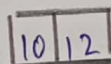
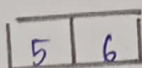
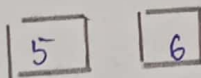
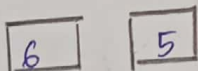
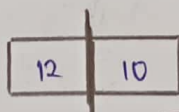
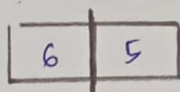
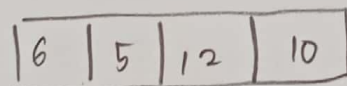
$$\text{rear} = (0 + 1) \% 6$$

$$= 1$$

e) i) value sibling: 17, 11, 20
 2) value subtree: 4, 19, 7

ii) In order = $A + B / C * D - E * F - G + H$

f)



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