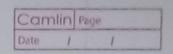
#### MERUINU

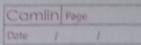
Step 1: Stact 5tep2: Declace the Vaciables Step 3 : Read the size of fiest away 5 step4: Read element of tirst accept in Sorted oreder. steps: Read the size of second away. Step 6: Read the element of second areay in socted order. 10 Step7: Repeat Step 8 and 9 while 12m & Jan step : check if a[i]>= b[i] then c[k++)= b[j++] stepq: else c[k++]= a[++] 15 8 kp 10: Repeat step 11 while icm 8 top 11: c[k++] = a[5++] step 12: Repeat step 13 while Jan 310p 13: C(K++) = b[j++] 13/0p 14: Perot the thist accord

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	Step 15: Print the second array Step 16: Print the merged array Step 17: End
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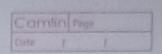
### STACK OPERATIONS

Step1: Stact Step 2! Doclare the node and the sequired meiables. Step 3: Declace the function for push, POP, display and seach an element. Step 4: Read the choice from user. Steps: If the user choose to pash as element, they read the element to be pushed and call the function to pash the element by passing the value to the fanction. Stps. 1: Declace the reconside and allocate memory fox the neurode Step 5.2: Set new Mode -> clara = Value steps. 3: check if top == nell then set neunlode -> next = neell Step 5.4: Set newhoole -> next = tep



Step 5.5: Set top = needlade and then Peint inscetion is successful steps: If user choose to pop as element from the stack then call the function to pap the element. Step 6.1: check if POP == nell then Peiot - Stack is empty. step 6.2: else declace a pointee Vaciable temp and initialize it to top step 6.3: Petert the element that being delated. 8tep B. 4: set temp = temp socxt Step 6.5: Feee the temp step 7: If the user chase the display theo call the function to the element is the stack. step 7.1: check if top == nell thes Peint Stack is empty.

Step 7-2: Else declare a pointer variable temp and initialize it to top. step 7.3: Presont temp -> data. step 7-4: Set temp = temp -> rext step 8: If use choose the search or element from the stack then Call the function the to Search as element. 10 step 8.1: Declare the pointer variable Pte and other necessary Vairable. Step 8.2: Initialize Pto = top Step 8.3: check if ple=nell then print stock empty Step 8.4: Else road the element to be Seasched Step 8.5: Repeat Step 8.6 to 8.8 while pte != null



step 8.6: check if He > data == item

then peint element tounded and

to be located and set flag=1

step 8.7: Ese get flag=0

step 8.8: Increment i by 1 and set

Pte = Ple > next.

Step 8.9: Check if flag=0 then peint

the element net found.

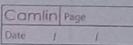
step 9: end.

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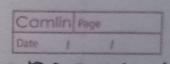
## CIRCULAR QUEUE OPERATION

Step1: Start Step 2: Declace the queue and other vaciorbles. Step 3: Declare the functions for enqueue, dequeue sourch and display. Step 4: Read the choice team the uses. step 5: If the user choose for choice enqueue, then read the element to be presented from the cases of call the engueue function by passing the value. Step 5.1: Check if front == 1 + & Reac == 1 then sot front =0, lead =0 and set queue [ real] = element. 3-pp 5.2: else It real +1 1. max == freat al Least = React 1 then Peint Queue is averdow

CIRCULBE CIRCUE CIERRICAL Step 5.3: Clase set 2000 = 2000 + 11/1 mgz and sot queue [ seal = element 3tep 6: If the user choice is the option dequeux then call the function dequeux. step 6.1: check it feast == -1 and seal ==-1 . then Pelot queue is underflow. Step 6.2: else check if front == real theo peint the element is to be deleted . Then set floor = 1 and leal = 8tep 6.3: Else print the element to be dequecied get front = front 1% max. 3-tep 7: If the user choice is to display the queene then call the function display.



Camlir	1 Page
Step 7.1: check if front = -1 a	and seas-1
then pelot greace go	Emply.
Step 7.2: Else ecpeate the ste	P7.3
while it = leae.	
5 Step 7.3? point quece [i] and	set
i = i+1 1/2 more.	
Step 8: If the usee choose the	Soakih
then call the function	
an element in the ope	Teche,
10 Step 8.1: Read the element to	
sociched in the qu	
step 8.2: check if item == 9	
then pelat item	
its position and in	
15 R 1 by 1.	icae arear
Step 8.3: check c==0 then F	Dated
	2107
item not found.	
step q: End.	



# DOUBLY LINKED LIST OPERATION

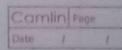
	and the same of th
	Step 1: 3tack
	step 2: Declace a steucture and
	related variables.
305	step 3: Doctare functions to cerate 9
	node, insect a node is the
	beginling, at the end and given
	position, display the list and
40	search an element in the list.
10	Step 4: Dadine function to create a
2003	node declare so the sequised
ab	Vaeiables.
	Step 4.1: Sot memary allocated to the
	nade = temp. then set
15	temp -> Pery = nall and
	temp -> next = nall
	Step 4.2; Read the value to be insected
	to the node.
5	3-tep 4.3: set temp->n = data and incerment

step 5: Read the choice from the uses to perform didderent operation on the list. step 6: If the use chaose to podown inscetion operation at the beginning then call the tunction to pertorm the insertion. Dep 6.1: check if head == nall then call the function to create a node, pertorm step 4 to 4.3 Stop 6.2: Set head = temp of templ=head step 6.3; else call the function to create a node, perform step 4-4.3 then Set temp-> hext= head, set head -> perv=temp and head = temp. 3top 7: If the usee choice is to perton inspection at the end of the list, then call the dunction to

pertorn the insertion at the step 7.1: check if head = = mell then coll the dunction ceaste a rewriede then set temp = head & then set head = temps Step 7.2: Else call the function to create a new node then set dempt -> next = temp. temp -> peev = temp , and temperature steps: If the cises chase to perform inscetion in the list at any position theo call the femation to perform the insertion operation Step 8.1: Declace the neccessary Valiable. 3tep 8.2: Read the position exhere the nocle need to the inserted. set temps = head

Step 8.3: Check if POSKI GR POSX= Count +1 then pent the position is out of large. step 8.4: check if head == noul & pos=1 then peint "Empty list connot Losoet other than 1st position 3/412 8.5: check if head ==nell & Pos=1 then call the function to create newhole, then set temp = head and head = temps 3tep 8.6: while ic pos then set demp2 = demp2 -> next theo increment ? by 1. Step 8.7: call the function to create a new node and then set temp -> Pear = temps temp Joeset = temps - spect PRRY - temp. temps -> mext = temp.

Step 9: If the case choose to pretour deletion operation is the list then all the dunction to perform the deletion operation step 9.1: Declace the somessary Vacable step 9.2: Read the position where node need to be deleted set tempa=head step 9.3; check if fost 1 or pos>= County then Pelot Position out of same 10 Step 9.4: check if head == new then print the list is empty Step 9.5: while ix pos thes temps=temp=not and increment i by 1 Step 9.6: check if i== 1 then check if temps -> next == nell then point node deleted Free (temps) set dempe = head = null 8-kpq.7 : check if temps -> next == null then temps > pear > next = null then there there then. Peint node deleted



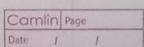
Step 11.1: Dechee the noccessary Vaciables step 11.2: 30+ temp2=head step 11.3: check if temps == nell then peint the list is empty. Stop 11.4! Read the Value to be searched step 11.5: while temp2 ! = nall the check If temp 2 -> n == data then print element found out position count Step 11.6: Else set temp2 = temp2 - mext and exement count by 1 step 11.7: Peint element not found in the tiest Step 12: End

### SET OPERATIONS

step1: start step 2: Dockage the neccessary Vaciable stop a: Read the choice From user to Perform sot operation step 4: If the usee choose to perform union Step 4.11 Read the caedinality of 2 sorts Stop 4.2: Check if mi = n then point cannot partorn union step 4.3: else send the elements in both the sets Step 4.4: Repeat the step 4.5 to 4.7 cotil 12m step4.5: C[i] = AUI BUI Step 4.6: Peint cli] 3top 4.7: Increment i by steps: Read the chaice dean the case to predoen intersection

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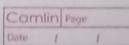
steps. 1: Read the caedinality of 2 Sals stop 5.2: check if w/ =n then print cannot Perform intersoction. Stop 5.3: else soud the elements is both the sots. step 5.4: Repeat the step 5.5 -5.7 until izm Step 5.5: C[I] = A[i] & B[i] step 5.6: Pelod C[i] step 5.7: increment i by step 6: If the user chance to portorn set difference aprelation step 6.1: Read the cardinality of 2 sets step 6.2: Check if mi=n then point cannot perform Set difference operation 3-kp 6.3: else read the element in both Sots Step G.4: Repeat the Step 6.5 - 6.8 until in



	Camlin Page Date 1 1
	step 6.5: check if A [i] == 0 then cli]=0
	step 6.6 ". Else if BCi] == 1 then c[i]=0
	Step 6.7: clse C[i]=1
	step 6.8: Increment i by
5	31cp 7: Repeat the step 7.1 and 7.2
	cotil ism.
	step 7.1 ? peint cli]
	Step 7.2: Increment i by 1
	steps: stop
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### BINARY SEARCH TREE

Stop 1: start Step 2: Doctare a Strencture and stecreture printer tox inscetton deletion and search operations and also declare a function for border fraversal step 3: Dochue a painter as root and also the eguised variable. step 4: Read the choice from the cisc to peedoem inscetion, deletion, southing and incides teachesal step 5: If the user Choose to rectary Inscetion operation then send the value which is to be inscried to the tree from the step 5.1: Pass the value to the insect pointer and also the east Preintee.



step 5.2: check if I sent then allocate managey for the rest Step 5.3: 300 the value to the info Part of the Root and then set left and eight part of the east to nell and setuen Root. 5tep 5.4: check if east -> isfo > or then call the insert pointer to insert to left of the loot. step 5.5: aheak if Root -> into >>c theo call the insect pointer to insect to the eight of the Root 15 step s. G. Refuen the Root 3top 6: If the use choose to perform deletion operation then read the element to be deleted them the tree Pointer

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and the Hen to the delete
pointee.
Step 6.1: Check if not pts then point.
nade not faced
s step 6.2: else if pte->infolx then
call delete pointe by passing
the eight pointer and the
iten.
step 6.3: else if ple > into > x then
call defete pointed by
passing the left pointer and
the item
Step 6.4: check if Ple > into == 1 tem
then check if Ple -> ledt ==
15 ple -> right then free ple
and refuen oull
Step 6.5: also id Pre-> left == nell
then set PI. Pte -> Right and
free ple, seturo pi

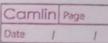
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Step 6.6: else if pre-> Right == neell
then set PI=p1x -> left and
tree ple rofuer PI.
Step 6.7: else set PI = Ptr -> Right and
5 P2 = P1e-> eigkt.
step 6.8: cobile PI -> left not equal
to nell, set pr->left pla->left
and free Ptr, Referen P2
step 6.9: Refuer P1x
10 step 7: If the uses choose to perform
Smoch appearation then call the
pointer to perform search
operation.
step 7.1: Declare the neccessary
15 Pointer and variables.
310p 7.2: poad the element to be
Spached
step 7.8: while Pla check if items plans
Info then Ple = Pte -> eight

Step J.4: else if item 2 pte -> into then Pte = Pte -> left step 7.5: else beeak step 7.6: chock if pre then point that the element is found Step 7.7: else peint alonent not tount in tree and reteurs step 8: If the user chase to peotoens teaversal then call the teaversal function and pass the earl pointees. step 8:1: If Root not aquals to neel Reccesively coll the tendions by passing Root -> left Step 8.2: point root > Into 3tep 8.3: call the traversal tunction seccessively by passing

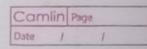
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	Stop 9: Stop.
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### DIS JOINT

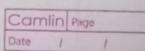
Step 1: Start Step 2: Declare the steer ofcer and selated steerfuse valiable step 3: Declare a function make set () Step 3.1: Repeat step 3.2 - 3.4 centil in step 3.2: dis parent [x] is set to i Step 3. 3: Set dis , rank [c] is equal to o step 3.4: increment I by 1 10 step 4: Doctare a function display sof step 4.1: Repeate step 4.2 and 4.3 antid si LA step 4.2: paint dis parent(i) step 4.3: increment iby 1 3-tep 4.4: Repeat Step 4.5 and 4.6 antil 140 3/cp4.5: Print dis. Rank[i] step 4.6: Increment i by



step 5: Declare a duardion fine and pass or to the trention step 5.1: check if dis present [x] 1= no then set the seters to dis parent [m] step 5.2: Referen dis. parent [x] step 6: Declara a function anion & pass two variable = & & g Step 6.1: Set & Set to find (x) 3top 6.2: set y sot to flad (y) Step 6.3: check if x set = = y set then setues Stop6.4: Check if dis. rank [x sot] als. Rank [4 sod] Step 6.5: set yest = dis. parentlysel Step 6.6: 30f -1 to dis-800 k[x sot] Step 6.7: Else if check dis. Rook [x sof]> alis rook [y sol].



step 6.8: Set x set to dis pasent [ysot] Stope.9: Set -1 to dis. park [9Set] Step 6.10: else dis parent [y set] = 5 set Step 6.11: Sol dis . Rock [x sot] +1 to dis eark raset] Step 6.12: Set -1 to dis . Rank [4 set] step 7: Read the number of dements Step 8: Call the function makesot Step 9: Read the Choice from use to portoen union And and display operation Step 10: If the cises choose to pretoen cenion operation read the element to prestoem union operations. stop 11: If the usee choose to poetern Find operation Read the element to check it connected



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	•
step 11-1: check it find (x) == find (y)	
then period connected	
Componend	
step 11.2: else peint not connected	
5 Component.	5
3top 12: 17 the usee choose to	
perdorm display operation	
coull the function display	
Set	
10 step 13 : end.	10
15	15
	10