Merging

Step1: stuf

Stepa: Declease vousiables.

Slep3: Read the sneststarry.

Step4: Read elements of 1st array insorked ords

Sheps: Read the size of god orray

stepl: Read the element of and array in soste

Step7: Repeat step8 and q white 1cm \$30

Shep8: . check if . Ca[i] > = b[j] than c[k++)=b[j]

skpg: Else · c[K++] = a[d++]

Step10: Repeat step 11 while icm

Skp11: C[k++) =a[j++]

Skp12: Repeat · Step 13 while I an.

Skp 13: ([K++] = a[++]

Stepia : Repeat step 13 white den Shep 14: Print the 1st away. Step 15: Print the 2nd array. Step 16: Pront the neoged array. Skp17: End Interpor 15 S. ccess Sul

OIP Size of Instansing. 2 Enter value in sorbed order. Size of second array. enter value in sorted order. Arong A: 6. COME COM Bedards 45 78. merged array: 45678

STACK OPERATIONS

Step 1: strot

Step 2: Declara he node and the required.
Vorsiables.

Step 3: Declare the functions how push, pop display and search on element

Slep4: Read he choice from he user.

Step 5: It the user choose to push on element, then round the element to be pushed of Call the function to push the element by.

Passing the value to the function.

Step 5.1: De clase the new node & allocate.
menosy for he new node.

Step 5.2: set neurode > daturate

Step 5-3: check it top = = null than set newwode = next = null

Step 5.4: SetnewNode > next = top

Step 5:5: set top = new Noche & hen point insurhon is successful.

Skpb: It uses choose to pop an element from the stack then call the kinchon. to pop the element

Slep 6.1: check it top= = NUII then Prot stackis empty.

Slepb. ?; Else dedore a pointer vamable temparel initialize it to top

Step 6.3 ? - Print the element that being detected.

skepb.4: Set temp=temp=next.

Step 6.5: Set free Rue temp.

Step 7: it he user choose he display hen call the function to display he display he display. The element in the stack.

Step7.1: check it top == NOW Then print stack
15 empty.

Step 7.2: Else declare a pointer variable.

kemp & initialize it to top

Step 7.3: Represt steps below while temp = next = null

Step 7.3: Repeat steps below whole Step 7.4: Print temp > date.

Skp7.5: Set temp = temp = next.

Step 8: It the user choose to search an openent from the stack then could be turchon to search an element

Slep 8.1: Declare a pointer vonable ptrond one other necessary vonable.

Step8-2: Inhalize ptr=top

Step 8.3: check it ptr = null then print stack empty.

Step 4.4: Else read he element to be searched

Step 8.5: Repeat Step 8.6 to 8.8 while pts] =

Step 8.6: check it Pts -> data = = 1km thenpoint.

Check it Pts -> data = = 1km thenpoint.

Cond Set Mag = 1.

Step. 8.7; Else set May 20.

Step 8.8 : increment iby I and set Ptr= ptro next

Step 8.9: checkit Hag = 0 then Print the element not tound.

Stepg: End.

Menu

1. push.

2. POP

3. display

4. Search.

5. Exil.

Enter the charce: 1.

Enter the element to be inserted : 2.

Englished as depotential to englished

"Insection is accessful

. Menou.

1. push.

a. POP.

3. display.

4. Search.

5. Exit

Enter The choice :)

Enterthe element to be insected: q Inste Insertion 15 Successful 1. push. P. Pop 3. display 4. Search 5. Exit Enter the choice: 1 Enkel the element to be inserted: 10. Insertion 15 successfull. Meny. 1. push. a. Pop 3. display 4. search 5. Exit. Enter the choice: 3. チョョラカリリ

Menu 1. push. a. POP. 3. display 4. Search 5. Exit. Enks the choice: 4. Enter the item which is to be searched it. 1km found at lacation: 2 Mena Sign ?: I'lle coses chasse 1. push. a. POP. COM the Genetion to die 3. display 4. Search 5. Exit Enter the choice: 5.

not the reduction of the

Circules overe operation

Skep1: Stast.

slepa; peclare the queue and other variables

Step 3: Declare the functions for enqueue, dequeue, search and display.

Step4: Read the choice from he uses.

Shep 5: It he users choose the choice enqueue then Read the element to be insested from the users and call the enqueue function by passing the value.

Dep 5.1 check it front = 2-1. ft. reas = 2-1

then set front =0, reas =0 and.

Set queue [reas] = element.

Steps. 2: Else if sens +190 max == book or bront = seas+1 hen pont Quene 15 overflow.

Step 5.3: else & set read = sea +19P max and set Quene [seas]= elmant

- Step6: If the user choice is the poton.

 dequeue then call the function dequeue

 sholl: of a 4 4 trout==-1 and years
- Skept-1: check it troot==- I and seas==- I then.
 Print Queue is understow.
- Step 6.2: Else check it I sont = = seas Man.

 Point . The element is to the deleted.

 Then set I sont = -1 and seas = -1
- Step 6:3: Else print the element to be.

 dequened set bront = bront + 190 max
- Step 7: It The cases choice is to display. The Quene then call the function. display.
- Step 7.1: check it Isont = 1 and seas = -1
 then point Queue is empty.
- Step 7. 2: Else sepeat the step 7.3 while is
- step 7.3: Print queue[i] and set i-i+1%.

Step8: It the user choose the search.

Then call the turchon to search.

an element in the queue.

Step 8.1: Read the element to be searched in the queue.

Step 8.2: check if iten = = queue[i] then.

Print item tourd and it position

and in overnent 1 by 1.

Step 8-3: check if C = 20 then point to item.
not land.

Skp9: End

Output Menu 1 -> insect 2 -> Delete. Since for fronts 3 -> Display. 4 -> search. 5 > Exit Enker The choice: 1. Enker he numbers to insert: 10 Menu ils insert. 20 Delete. 3 -> Display 4-) Search 5-> Exit. Enter he chace: 1 Enter the number to insest: 20. menu.

- 1. Insect.
- a. Delete.
- 3 Display
- 9. search.
- 5. Exit

Enter Phechoice: 1

Enter he number to insect: 30.

menu.

1. Insect.

2. Delete.

3. Display.

4. Search.

5. Exit

Enter the choice: 3

1 5/50 IT 7000

10, 20,30.

menu.

1-> insest.

2-> Delete

```
3. Display.
 9. seasch.
            desirene hene
 5. Exit
 Enter Mechace= 4.
 Enter the element which is to be searched: 30
 Hen found out bacation 3.
               Part les
 Mence.
 1. Insest.
2 Delete.
3. Display.
9. Sevech.
5. Exit.
 Enks the choice: 2
low as deleted!
Menu.
              Sept. 1: check if her
1. Insect
             her pert soul
9. Delete.
3- Seasons
3. Display
4 · Search.
S. Exit
```

Enter the charce: 5.

set operations

Step1: stoot

stepa: Delan Decleve the neccessory was able

Step 3: Read the choice from the uses to pastoon. Set operation

Slep4: 11 The user choose to perform umon

Skp4-1: Read the eardneship at of a sets.

Step 4-2: check it m 1=n then print count.
Persoon union.

Step 4.3: Else read the elements in both the,

Step 4.4: Repeat the step 4.5 to 4.7 tunh!

Shep4.5: ([] = A[] [B[i]

Slep 4.6: Print c[i]

Step 4.7: Increment iby)

Steps: Read the chace from the uses to Restoom. Intersection.

Steps.1: Read The coordinality of a sets.

Steps-2: check it mi=n. Then print connot.
Restoon intersection.

Step 5-3: Else read the elements-1sbok sets.

skp 5.4: Repeat Mester 5.5 to 5.7 winhlier

steps.s: eti) = A[i] RB[i]

steps. 1: pointai)

Skp5.7: Incoment iby

Step 6: 11 The ever choose to Person set difference sportion.

Stepb.1; Read the coordinality of a sets.

Slepb. 2: check it mizn then print cannot perform set dilberence Operation

Skp 6.3: Else read the element in both.
Sets.

Step 6.4: Repeat the step 6.5 to 6.8 until

Step 6.5: check if A[i]==0 then e[i]=0.

skep 6. 8: . else it B[i] -= 1 . Ren c[]-0.

step6.7: else (1)=1

Step 6-6: Increment ibol.

Step 7: Repeat the step 7.1 and 7.2 until.

Step 7.1: print ([1]

Step 7. 2: Increment ityl.

Output press 1 for union. Press a fox intersection. Pressa for subtruction Press & Por exit enter chaice 1. Enter the size of set 1 - mali le x solo 26-2942 Enter the element obself Enter the element of set? Union: 123 Poess I for union Press Press 2 los intersection Press 3 for Subtraction Press 4 for exit. Enfer wo choice: 2 enter the size of set:1

enter the element of set) Person of section and the enter the size of set? enter he element of set? 4 - Malan Shiras Timpale Intersection: 3 stopes i check if my Press 1 for union Press a los intersection Press 3 too subtraction Press 4 for exil enter y ano choice 3 Enter the size o'set, enter the element of set 4

Enter he size of set ? Britis The element of set? difference: 1 Press 1 for Union Press a for Intersection. Press & for subtraction.
Press 4 for exit enter choice: 4.

Step 5.7: 120 many Ety)

Skp 6: 19the every above to people sel

2001 : Ren 1 /2 con / 1 / 1 / 1 / 1 / 1 / 1 / 1

stept 2: clock it me on the point could

perform set difference Description

Binery search Tree

Step 1: Stard

Stepa: Declease ashowehise and shackise.

Pointess for Insertion detection and search operations and also declare almostian for in order traversal

Olep3: Declare a pointer as rootant also the required variable

Gistep 4: Read the declare choice from the.

User to perform insertion, detection.

Searching and morder traversal.

Steps. It he user choose to perform insection operation then read he value which is to be insected to the tree from the user

Skp5.1: Pass he value to the Insest pointer.

and also he root pointer.

Step 8.2: check of I root then allocate.
memory too the root.

Step 5.3: Set The value to the 1nds Past of the.

Set root and then set lattered right.

Past of the root to rull and return.

Toot-

Skp5.4: Check it root > into 3x them call
the insest pointer to insest to left
of the root

Step 5-5. Check it soot > Into & x then.

Call the insest pointers to insest.

to the right of the root.

Skp5.6: Return the rood.

Step 6: It he user choose to personndethon Operation than read the element tobe. deleted from the tree theroof. Pointer and he item to the delete. Pointer.

- Step 6.1: check it not ptr then print node.
- Step b. d: Else of pto > info < x . Recall

 delete pointer by passing.

 Resight pointer and heiters.
- Step 6.3: Else it pts -> inhord > x . han call de lete . pointer by passing the lette. pointer and the item.
- Skep 6.4 check it Ptr -> Info == itemphen. deck .19 ptr -> 184 == ptr ->.

 Night her tree ptr and return num
- Step 6.5. Else it ptr sleft = = null than set.

 P.I. Ptr > night and free ptr. returns,
- Stept-6: Else of Ptrs -> soight == null then.

 Set PI = pts -> left and free, pts

 return PI

skep 6-7: Else set PI - APT -> night and.
Pa = Ptr -> night.

Step6.8: While ·pi -> left not equal to null, set PI-> left and free.

Phr, seturn . Pa.

Slep 6-9: Return Pts.

Step?: It he uses those to pertoon seach.

operation he call the pointer to.

Pertoon search operation.

Step 7.1: Declare the necessary pointers and variables

Skp7.2 . Read the element to be sewiched.

Skp7-3: While Ptr check if the itemsptr-s

Into then Ptr = Ptr > Right.

Step 74: Elese Else 1916 CPtr > into. Then phr= phr > Let. 5kp 7.5: Else break.

Step 7.6: check it ptr then print that the Clement is found.

Step7-7: Else point element hot hourd in bree and return root

Step 8.1. 19 The user choose forestoom boverso then call the fraversal functiona and pass the root pointers.

Step8-1: it root not equals to null recorsine call the fundions by passing root ->104.

Skp 8.2: Point root > 1080

Step 8-3: Call the troversal function.

recurssively by passing root sight

Skep 9: End.

Output

- 1- Inisest in Binary bee.
- R. Delete from Binary tree.
 - 3. Inorder Francisco de Binosydree
 - 4. search.
 - 5. exit.

Enterchace:

Enks new elemento20.

700+ 15 20.

Inosdes forversal of binery bree 15:20

(1) 1 1 1 1 1 1 1 C(1)

- 1. Sinsest in Binesytore
- 2. Delek from Binery bree.
- 3. In order traversal of Binary free
- 9. Search.
- 5. exit

enter choice: 1 enternew element: 25. In order foressal of binary free 188:202 1. Insert in Binesylvee

2. Delete from Binery hee

3. In order fraversal of biners here.

4. Search.

Search operation in binary tree.

enter the element to be searched:5.

extelement 25 which was seasthed isloud

1. Insert is Binary bee

2. Delete from Binary tree

3. Inorder traversal of Binary free

4. Search

5. exit

Enter choice:5. End of program 1 the moved grands to moved to be Step 5.5. Check front - Into SE x Rem Steps. L: Reban he mad 19 pass 1 4 years 2000 pt - 3 923 operation the new the March tope Penko cit Me Atmolo Me deles