Register No:

2013140464

Experiment No: 4

Date: 20/4/22

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S. No	* Component	Max. Marks	Marks Secured
1	Preparedness	2	0
2	Viva-Voce	2	2 1/21/4
3	Experiment	3	2
4	Analysis & Record	3	3
Total		10	3
	20/4/22	Signature of the Lab teacher	
Date		E: Well pu	

aviays and linked list.

Description:

stack: A stack is a linear data structure.

Considing of a set of elements and is based on prunciple

last in first out (LIFO)

- LIFO: The clement which is enlored at last will be

coming first

- In stack, adding and removing an clement at same

end is realled top of a stack.

push: is tour used to insert clement into stack.

pop: is tour used to delete element from stack.

push Data element

Stack

Data element

Stack

Output: * * * * MENIU * 1. Push 2. Pop 3. Display 4. Exit Enter yawr choice: 3 Stack is compty * + 4 MENU + +14 munique of mangory o well 1. Push rouge and booked but a. Pop 3. Display the count of this 4. Exit. in the James of Enter your chaire 11 Enter value to be sorted: 10 Insution successful! * * * MENU * * * Push 2. Pop 3. Display 4 Exa Enter your chair 3

stack elements are 10.

```
Register No:
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 Priogram: (aviays)
# unclude <stdio. h>
# include & conio.h>
# define Size 10
vaid push (int);
  vaid pop();
 Vaid display ();
  int stack [stack], top = -1;
 vaid main ()
  int value, choice;
 Clyscy ()',
 while (1)
 pount f ("In In *** * MENU* * * + \n");
 print f ("1. push In 2. pop In z. Dusplay In 4. Exit In");
 Scanf ("1. d", & cham);
 Switch (Chaire)
 Case 1: Print f ("Enter the value to be insert: ");
       Scanf ("'1.d", & value);
        push (value);
       break;
 Case 2: pop();
         bucak;
```

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Register No:
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 Case 3: display ();
                                      Thus bodies grown thinks
         bereak;
 Case 4: Exit(0);
                          wrong selection))) try again 11);
 default; pount f ("In
raid push (int value)
                                    Dies the data to push ite
                                          I WOULD IN WILLIAM I
4 (top == Size-1)
pount f ("In stack is full), insolution is not possible !!!);
 Clse
                                           1: mon ruou ron)
 top ++;
                                 Color the date to push 120
 Stack [top] = Value;
                                   Ingertion to Success !! I are
 print f ("In insulion success!!!");
                                          Fater jost thoras 2
 }}
                                        dicted timent its
 vaid pop () {
                                         Enlar your thour S
  ij (top = = -1)
 print f ("In stack is empty !!! Deletion is not possible!!!");
 else
 pountf ("In deleted: 1.d", Stack [top]);
 Use ?
 int i;
 . print f(" In Stack Clements ou: In");
 fair (1=top ; 1>=0; 1--)
pount f (" 1. d "In, stack (i));
```

Output:

Stack wang linked list::

- 1- Push
- 2. Pop
- 3 display.
- 4. Exit

Enter your choice :1

Enter the data to push : 10

Insection is successiff

Enter your choice: 3

10 - ----> NULL

Enter your choice: 1

Entor the data to push: 20

Insortion is Success!!!

Enter your choice 2

deleted element :20

Enter your choice:3

10 - - - - NULL

Maril Armi

as a material (1) habit a goode up, I have

THE CONTRACTOR STATE OF THE PARTY OF THE PAR

Register No: Experiment No: Date: 2014122 64 Porgram: # include retain hs # include < conio h> # include estalib.h> sourt noole int data; Struct nade & next; unt data; Struct node & nevet; *top; + new; + temp; vaid push (); Vaid pop (); Vaid display (), void main() int chaire i value, print f ("In. stack using linked list::/n"); while (1) { print f ("1. push [n s. pop In 3. display In 4. exit [n"); pount f ("entor yawr Chair"), Scanf (" 1.d", choice); Switchlchain) { Case 1: push (); bucak;

```
Register No:
                           Experiment No: .
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                                                  Date:
                                                      solulas
 Case a: pop()
    bucak;
 Case 3: display (1: brieak.
case 4: crit(o);
défault: printf (" In wrong selection !!) please
 353
 vaid push ()
 printf("entor the data to be push");
Scanf (" 1/2 d", 8x)",
 new = (struct node + ) malloc (Size of struct node)),
 new → data =value;
  if (top = = NULL)
 new → neset = NULL;
 clse
new-next=Top;
   top = new;
  point f ("In Inscittion done In");
   vaid pop ()
   if (toop==NUCL)
   prunt f'("In stack is empty !!! \n");
   else
   temp = lop;
   print f ("In deletal element 1.d", temp -> data
    top =-lump -- nevet;
    free (temp);
  void display ()
   if (top == NULL)
```

Register No : Experiment No :
Date: patelon
pount it in stack is empty !! (\n");
else i
temp - top;
while (temp!=NULL)
print f(" 1.d -> ", temp -> data);
temp = temp -> next;
b) with a program to implement queue using avoidy and linked list.
and linked list. Designam to implement Queue using average
Description:
Ollieu:
A Queue is a linear idata objective consisting of a set
of element and is based on prunciple of first in first out. FIFO: The elements which is executed at first will
> FIFO : The claments which is executed at first will
o socially forst.
The basic two operations associated with Queue we
1. Enquire which is soits an element at end of queue.
2. Dequie which deletes an element at start of quie.
Dequeue. Queue
enqueue enqueue
[1st value] 3rd value Juste and
Perogram! oreal points
#include <stdio.h></stdio.h>
include define size 5
int assizeJ;

int f= -1 Y=-1:

2014/22

```
Register No:
                            Experiment No:
                                                     Date:
  int enqueu()
  int x;
 il (7== size -1)
prant f ("ovorflow");
else
pountf (" enter & value ");
Scanf ("1.d", 8x);
 7 = 8+1
 Q [7] = X;
vaid dequerel)
 y (f==-188 Y==-1)
 pount f("In Queue is empty In");
else 4 (f==7)
2 pount f (" In The deleted element = 1. d In", 9(f));
 }
clse
 { f= f+1;
 pount f ("In the deleted element = 1.d In", 9[f]);
Void display()
inti;
4 (F=-1 887==-1)
 prunt f ("In Qual is empty In")"
clse
 pointf ("In The elements in Queue one
```

Experiment No: 4

Date: 20/4/22

312	• Component		20, 11
S. No		Max. Marks	Marks Secured
1	Preparedness	2	
2	Viva-Voce	2	1
3	Experiment	2	2
4	Analysis & Record	3	3
Total		3	3
		10	10
Date		Signature of the Lab teacher	
		√	
			1
_			

```
i=fH;
     while (1<= r)
 AIM: {
     pount f (" % d", q [i]);
      L=iH
  print f ("%d", q[i]);
 vaid main ()
 int ch, item;
  du
 pountf("In rinsort In");
 parint f(" In 2. delete In");
 print f(" In 3. Display In");
 pount f("In 4. Exitly");
 print f ("In Enter your choice In");
 Scanf(" % d", &ch);
Switch (ch)
Case 1: pount f ("In Enter Clements to be pushed In");
 Scanf ("./.d", 8 ttem);
 add (ctam );
boicak;
```

```
Register No:
                            Experiment No : |.
                                                     Date:
                                                          2014/22
  Case 3: display()
    bricak;
  Case 4: Exit(0);
 } while (ch = 4);
# include <stdio.h>
# include < conio.h>
 Street quine
int quine
int data;
 Struct queue & next;
3 * new node, * Hear, * fring, + temp;
 izaid enque ()
  int a:
  new node (street queux) malloc (size of (street Queux));
  pountf ("In enter data");
  'scanf (": l. d", &x);
   new rede -> data = 2;
  new node -> neset = NULL',
 if (front == NULL & & real = NULL)
  Epront - now node;
   Iteal = new node;
   Clsc
    slear - menet = new node;
  rear - new node.
   3}
   void dequue ()
```

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Register No:
                             Experiment No: |.
   ij (front = = NULL ** orcal = = NULL)
 point f (" In In It emply quive");
 temp = front;
print f ("InInIt deleded clement from queue is 1.d", temp -data),
 front - front -next
   que (temp);
 void display () {
 if (front == NULL && sical = = NULL)
print f ("In In It comply queue");
 else {
 temp = temp → next;
}}
 Void main ()
 char ch;
 pount f ("In It Queue operations using pounteus");
 print f(" In 1. Insert");
  print f("In 2. delite");
 point f("In 3. duplay")
 -point f ("In 4. Quit");
  while 1)
                                          Case 2:
pount f l'enter your chaia');
                                         dequeue ();
  Scanf ("1,d", &ch);
                                         bricak "
  Swilch (ch)
                                         Case 3:
                                        display () break;
   Case 1.
                                         Case 4:
 Enqueur ();
                                          exit(1); bucak;
   break;
                                         getch ()',
```