Apex College BCIS Program

Affiliated to Pokhara University



Data Structure & Algorithms Lab Report

2. Queue Operations! Enqueue & Dequeue

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Lab 1 Objectnes met des 14 about) survey

- To understand queue and it operations!

- so create program based on algorithms of enqueue and dequeue.

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#Introduction

Bueue is an ordered collection of items which insert (enqueue) data from sear side (ix.teil) and remove (dequeue) data from front side (ix. head) also called the FIFO principle. So that the data item stored first will be accessed first

dequeue a b e d e f enqueue

Rear='f'

i modi nulsi

In the stack.

Hinolude Lotaloih>
Hinolude Lotaloih>
H define MAX 10

struct queue (() molicy, " nihar") fining int items cmax;

int rear, front;

typedet struct queue queue;

instituted on the control of the con

```
void enqueue (queue tq, int item)?
    of (q-s rear = = max-1)
       printf ("Queue is full. in");
     else f
       q -> rear tt;
       q-> items [q-> rear] = item;
       and your tolles for store in it
Ent dequeue (queue *q)[],
    if (q-> front > q-> rear) [.
      'printf ("Queue is empty. In");
     else (
       Item = q->item [q-> front];
      1 9-> front ++;
     return item;
18 mond product to demonstrate mond mond
Doid display (queue *9) {
                             Hinchele obulont
   int i!
   printf (" Elementa in gueue: In ) distributed would the
   for ( i=q-> rear; i =>q-> front; i--)
      printf (4%din4, q-) 9tems [i]);
                           2 x 1/20 Kmol 1 400
                            interest, from the
void main () {
  queue q;
  int ch, item;
                      well short dowle delight
  q. front =0;
   q. rear = -1;
```

frame but her or so of free water. while (10) { printf("Fnter your choice: (n"); printf("1. Enqueue In 2- Dequeue in 3. Display In 4. Eutini); Sconf("old", bch); switch (ch) case 1: printf("Enter data: "); scanf("od", & item); enqueue (69, item); break! [1 y 1. (1, - + +) Item = dequeue (29); case 2: printf("old"is dequede: \n", item); sould be copied ; your break; case 3: display Cago; and and a lo well a feet or case 4; 1120 06 exit (0); default: Printfl "Invalid choice. In"); Translano 11 # Activities a bear and rode and made I want - Created 4 defterent menu itemps similar to stack. 1) Dequeue - used to remove data from the front of the queue following FDFO sequence. check whether the queue is for not I.e. If (Rear (Pront printifl gues is forth

- ootherwise, queue is not follempty
 - sperement the value
 - set, item = queae [Prant]
 - increment, value of Front
 - return item
- 1 Enqueue
 - used to insert data from the rear side of the queue following FIFO sequence.
 - · check whether queae is field in not i.e. if (reor = = max-1) printf "Queae " full" a post
 - ·Otherwoe, queue is not full
 - -increment: value of Rear
 - in queue rew element into rear' position of queue
 - 4 Display
 - O EXH

Conclusion

- Learned operations of queue the enqueue and dequeue.

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- enqueue operation used to insert item (date) from rear side it queue & dequecie operation used to remaine data from front side of queue.

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